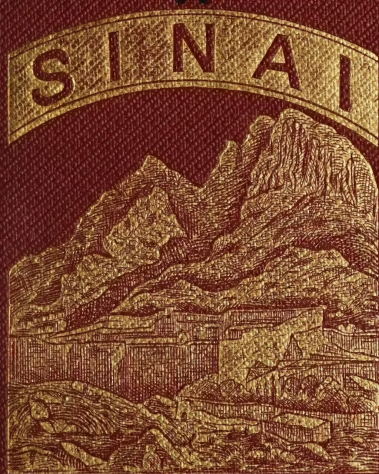


ANCIENT

HISTORY FROM THE MONUMENTS



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ANCIENT HISTORY FROM THE
MONUMENTS.

S I N A I.

FROM THE FOURTH EGYPTIAN DYNASTY
TO THE PRESENT DAY.

BY
HENRY SPENCER PALMER,
MAJOR, ROYAL ENGINEERS, F.R.A.S.

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PREFACE.

IN this book an attempt is made to give a *précis*, as complete as a somewhat small space allows, of the present state of our knowledge of that section of Sacred Geography which includes the country traversed by the Israelites in their journey from Goshen to the Mount of the Law, and a little beyond it; to describe the physical character and present inhabitants of the Peninsula of Sinai; and to relate, as far as possible, its past history. The writer's connection with this task is due to his having taken part in the Ordnance Survey of the Peninsula, which was carried out in 1868-9, under the auspices of the late Lieutenant-General Sir H. James, R.E. It is on the results of that Survey that the present volume is mainly founded; and therefore the circumstances under which it was made, though doubtless familiar to many, may be briefly sketched here, for the information of those readers who have not followed the subject from the outset.

The idea of making a systematic exploration of the Peninsula, for the purpose of clearing up authoritatively the doubts and controversies respecting the topography and other particulars which had long existed, originated solely with the late Rev. Pierce Butler, of Ulcombe Rectory, in Kent, who, in connection with Sir H. James and the present writer (at first designated as the leader of the Expedition), brought the subject to public notice in the latter part of 1867, and secured the support of Government, as well as of some of the learned societies, and

of many persons eminent in various branches or knowledge. The collection of funds was going on actively, when Mr. Butler's untimely and lamented death, which took place in February, 1868, at the early age of forty-two, seriously threatened the success of the scheme. Happily his place in it was soon worthily filled by the late Canon Williams, Vicar of Ringwood, through whose efforts, aided by those of Mr. Butler's former associates, as well as of the Rev. F. W. Holland, an experienced Sinaitic traveller, of Captain (now Major) C. W. Wilson, R.E., and others, sufficient funds were forthcoming by the following autumn to equip an expedition on even a larger scale than Mr. Butler had hoped for. Captain Wilson had in the meanwhile offered his services—a proposition in which the writer readily acquiesced; and the Expedition, under the joint command of both officers, left England on the 24th October, 1868. An eminent Orientalist, Mr. (now Professor) E. H. Palmer, of St. John's College, Cambridge, accompanied the party, for the purpose of investigating the local names, traditions, and inscriptions, and of dealing with the native tribes. Mr. Holland gave his valuable help as a guide, and undertook to pay special attention to the geology; and Mr. C. W. Wyatt officiated as zoologist. Four chosen non-commissioned officers of Royal Engineers, from the Ordnance Survey, completed the scientific staff. These, besides being expert surveyors, were also highly proficient in other branches: Colour-serjeant (now Quartermaster) Macdonald, as photographer to the Expedition, Corporal Goodwin, as artist and modeller, and Serjeant Brigley and Corporal Malings, as hill-sketchers.

Five and a half months were spent by the Expedition in the Desert. In this period they made elaborate plans and models, on a scale of six inches to a mile, of the two mountains, *Jebel Músa* and *Jebel*

Serbál (with the ground in their neighbourhoods), which were regarded as the chief rivals for the title of the Mount of the Law; as well as sketch-surveys on a smaller scale, founded on triangulation and astronomical measurements, of all of that part of the Peninsula which can have been connected with the movements of the Israelites. More than 300 photographs, and some 3,000 copies and impressions of Sinaitic and Egyptian inscriptions, as well as various plans and drawings of ruins, chapels, monasteries, &c., zoological, botanical, and geological collections, and other contributions to knowledge, were also brought with them to England. That such work, in a rugged and highly mountainous desert, was not effected without a good deal of exertion, difficulty, and hardship, will be readily understood. Fortunately, the party kept their health, and met with no serious accidents, and were able to achieve the arduous task allotted to them with a completeness which would have more than satisfied the wishes of its earnest projector.

In 1872 the results of the whole enterprise were published, by authority of the Treasury, in five massive folio volumes, of which one contained the letterpress accounts, while three were filled with photographs, and the fifth with maps and plans. Of the shares contributed to these volumes by the present author and the other members of the party, according to their several qualifications, sufficient indication has been already given. The descriptive matter was, however, enriched by other contributions, including a Preface by Sir H. James, an Introduction by Canon Williams, and papers on the Egyptian remains by Dr. Birch, and on *Diatomaceæ* by Dr. E. T. Wilson; while the plants were named by Sir J. Hooker, and the *Coleoptera* by the late Mr. G. R. Crotch.

A work so large and costly was necessarily beyond

the reach of most readers. Hence the present volume, which is designed (with the late Sir Henry James's permission) to set forth the results of the survey, and generally the state of our knowledge on the subject, in a convenient form, and in which the writer duly owns his obligations to the various other contributors to the official work for a good deal of his matter. But, although the official volume has formed the groundwork of this one, the information derived from it is here largely supplemented by the results of later study and thought, and the conclusions drawn in the original reports are departed from in a few minor points; while the sections "From Goshen to the Passage of the Red Sea," and "On the Support of the Israelites in the Desert," treat of subjects with which the Expedition did not deal at all fully. Much help has been derived from consultation of the first two parts of the "Speaker's Commentary," Professor Palmer's "Desert of the Exodus," Dr. Ebers's "Durch Gosen zum Sinai," "Notes on the Earlier Hebrew Scriptures," by Sir G. B. Airy, Astronomer-Royal, Dean Stanley's "Sinai and Palestine," the late Dean Milman's "History of the Jews," the articles in Smith's "Dictionary of the Bible" which relate to the Exodus, Dr. Beke's "Mount Sinai a Volcano," the late Mr. J. K. Lord's "Peninsula of Sinai," and other publications; and Professor Palmer has kindly aided in the final revision of the proofs.

The geographical names are those adopted in the Ordnance Survey publications; and the maps and illustrations, with two exceptions, are taken from the same source.

H. S. P.

March 1st, 1878.

SINAI.



CHAPTER I.

DESCRIPTION OF THE COUNTRY.

THE Red Sea is divided at its northern end into two arms of unequal length. The eastern and shorter of these is the Gulf of 'Akabah; the western and longer one the Gulf of Suez; and the triangular promontory which lies between them—its apex turned southward, and its eastern and western sides measuring about 133 and 186 miles respectively—is that known as the Peninsula of Sinai.

In very early times, as now in our own, the Red Sea was a main thoroughfare of maritime traffic between the East and West. Besides the trade of Arabs and Phœnicians, it carried that of Egypt, probably the greatest of any in the ancient world. This traffic gave a special importance to the western gulf, from the head of which—then several miles further to the north than it is now—it passed westward to the Nile by an ancient canal of Pharaonic origin, and was thus distributed over Egypt. The same gulf, or its former northerly extension, was undoubtedly the “tongue of the Egyptian Sea,” referred

to by Isaiah (xi. 15). It was no less certainly the scene of the passage of the sea by the Israelites.

Nor is the eastern gulf without its historical associations. It was at or near its ancient head that Solomon built that "navy of ships in Ezion-geber, which is beside Eloth, on the shore of the Red Sea," which afterwards sailed to Ophir for gold (1 Kings ix. 26, 28); and that, eighty years later, the "ships of Tharshish," built by Jehoshaphat for the same purpose, "went not," because they were "broken at Ezion-geber" (1 Kings xxii. 48)—shipwrecked as they very well might be in this stormy and dangerous sea, especially when manned by the inexperienced servants of the king.

On and near the shores of these two gulfs, and in the area embraced between them, are to be found the sites of many of the most noteworthy events in early Biblical history. Comparative geographers, with hardly an exception, concur in placing Mount Sinai at some point or other in the peninsula which now bears its name. In the same neighbourhood we must look for Marah, Elim, the Wilderness of Sin, Rephidim, Horeb, Kibroth-Hattaavah, Hazeroth, and other sites of the Exodus. On the north stretches the Bádiet et Tih, or Desert of the Wandering, commonly identified, at least as regards its eastern part, with that of the Forty Years' Wandering. To the north-west are ancient Goshen and Rameses, Succoth, Pihahiroth, Etham, and Shur; to the north-east, Edom, Midian, and the country proper of the Amalekites; and beyond these a host of places familiar by name to every Old Testament reader. In short, the whole region, both sea

and land, about the northern part of the Red Sea is full of historical and antiquarian interest.

THE RED SEA.—In the Bible, the sea of the Exodus is frequently called by the Hebrew word *yem*, signifying simply “the sea,” but more often *yem súf*, the “sea of *súf*,” and in many passages by a name rendered “Red Sea” in the authorized version. In the LXX. it is generally the Red Sea, ἡ ἐρυθρὰ θάλασσα. By classical geographers, while the Red Sea proper, though forming part of the great Erythræan or Red Sea, was styled the Arabian Gulf, its western arm, the modern Gulf of Suez, was called the *Heroöpoliticus Sinus*, from the town of Heroöpolis, which once stood near its head. In Arabic, the same arm is sometimes called *Bahr el Kolzum* (Clysma), from ancient Clysma, near the site of the present Suez, and sometimes *Bahr súf* the “sea of *súf*.”

The meaning of the Hebrew *súf* has given rise to a good deal of discussion. Its real signification appears to be a “seaweed resembling wool.” The Arabic meaning also of *súf* is “wool”; and it seems likely that in the *woolly seaweed* with which the shores of the whole sea abound lies the source of the names *Yem súf* and *Bahr súf*.

Possibly, also, the red colour of the same weed may have given rise to the appellation “Red Sea.” The true origin of this name has, however, like that of *súf*, been a subject of much speculation. Early writers variously attributed it to red coral, red hills and plains, red wood, red birds (storks), and red water. “Raphael,” says Tischendorf, “in one of his early works, the ‘Passage of the Israelites through the Red

Sea,' actually painted the water red." Dr. Ebers, on the other hand, learnedly maintains¹ that the ancient Egyptians named the desert tract bordering on Egypt proper *red*, in distinction to Egypt itself, which was styled *black*, and that, like the desert, the sea which washed its shores ultimately came also to be called red. But the view which has chiefly found favour is, that the Red or Erythræan Sea is the sea of the Red Men, Himyerites and Phœnicians, who dwelt upon its shores.

The name "'Akabah" of the eastern branch, the *Ælaniticus Sinus* of classical geographers, is an abbreviation from the Arabic "'Akabat Aileh," the "defile of Aileh," identical with the Eloth of Scripture, which once stood upon its shore. By the modern Bedawin, either gulf is called simply *El Bahr*, "the sea."

BOUNDARIES AND DIMENSIONS OF THE PENINSULA.
—Though the peninsula, as we have seen, is enclosed on its east and west sides by the two arms of the Red Sea, it has no well-defined northern boundary. But taking as its limit in this direction a straight line from Suez to the head of the Gulf of 'Akabah, a distance of 150 miles, the area of the triangular peninsula south of that line is some 11,500 square miles, which is equal to about twice that of Yorkshire. The lofty desert table-land of the Tih, which occupies the whole space between the Red Sea and the Mediterranean, projects boldly southward into this area in such a manner as to form, roughly speaking, a second tri-

¹ "Durch Gosen zum Sinai." 1872.

angle, interior to the first, and resting on the same base, with its apex at or near the centre of the large one : it thus takes up about one-third of the whole peninsula. The boundary southward of this inner triangle is very plainly marked along nearly its entire length, the table-land ending abruptly in an almost perpendicular cliff of limestone, which presents a dead, unbroken, wall-like front, of great sameness in appearance, and from 1,000 to 2,000 feet in vertical height ; reaching its maximum elevation at and near the apex, where it is about 4,100 feet above the sea. Near Suez, the tabular outline of this great natural escarpment is so remarkably uniform as to have earned for it amongst the Bedawín the name *Jebel er Ráhah*, signifying that the long even line of its summit is as *flat* as the palm (*ráhah*) of the open hand. To the wall-like aspect of the same feature may perhaps be traced the name, “Shur,” of the wilderness into which the children of Israel entered after crossing the sea, if, as seems likely, the Biblical word *Shur*, which means “wall” both in Hebrew and Arabic, is of Shemitic origin. There are but few passes over the *Tih* escarpment into the desert upland beyond. Towards its eastern part, and at one or two points on the south-west, it loses its abrupt character, and becomes mixed up with outlying hills ; but on the whole it forms a well-defined natural boundary between two tracts of country differing widely in their physical character and aspect, and peopled by distinct native tribes,—on the north, the high and comparatively level desert of the *Tih*, *Jebel et Tih*, occupied by the *Teyáhah* and other tribes of *Bedawín* ; on the

south, the rugged mountains of Tor, occupied by the Towarah. It is to the latter of these tracts that reference is usually made when speaking of the peninsula of Sinai.

Though the name Sinai does not occur in the native nomenclature, the peninsula is known to the rest of the Arabic-speaking world as *Jebel Tor Síná*; while the names *Tor Síná* and *Jebel et Tor* occur in the works of the Arab geographers. In these designations, *Tor* signifies a hill or mountain, and is commonly applied to those of a sacred character, while the word *Jebel* (mountain) is used in its more general sense of a mountainous tract or range.

JEBEL ET TOR.—The region thus referred to is essentially a desert, and in the main a mountainous desert. Far from being the level, sandy expanse, studded perhaps with occasional hills, which popular imagination commonly connects with the name of desert—though in this instance such a supposition might well be excused, as, if we except the mention of the one mount of the Lawgiving, the hilly character of the country is scarcely referred to in Holy Scripture¹—the greater part of the Sinaitic peninsula is extremely mountainous and intricate, and is nearly destitute of that mantle of sand which conceals the natural features of many of the deserts of Africa. So far as bare hills and peaks, and arid, desolate valleys can make it a wilderness, it is one; but its plains are by no means numerous, and sand in any quantity is very seldom seen.

¹ For incidental references, see Exod. xxxii. 12; 1 Kings xix. 11; Ps. cxiv. 4, 6.

The chief exceptions as regards the two latter features are met with on the western side. From Suez southward, for fifty miles, the space between the Tih cliffs and the coast is, for the most part, a tolerably smooth tract of desert drift and "raised beach," sloping gently from the hills seaward. Further south is El Markhá, a flat, littoral expanse of similar formation; and further yet the large maritime plain, called emphatically El Gá'ah, "the plain," which is fifteen miles across in its widest part, and covers an area of about 800 square miles. On the east coast, the hills leave only a narrow fringe of beach, seldom expanding into plains of any magnitude; and in the interior there are few worth notice.

Sand-wastes are yet fewer, the only conspicuous ones being the Debbet er Ramleh, "plain of sand," in the north-west, covering about 130 square miles, and the lesser plains near 'Ain Hudherah in the north-east.

With these exceptions, then, the whole country south of the Tih is more or less mountainous. The hills rise from either seaboard, clustering here and there in conspicuous, lofty groups, and gaining steadily in general altitude till they reach the main watershed, or axis of greatest elevation of the peninsula, which coincides pretty closely with a line drawn from the southernmost point of the Tih escarpment to Rás Muhammed, the southernmost cape. Near this line, and near its middle point, the twin peak, Jebel Zebír-Katharina, the highest in the whole country, rises to an altitude of 8,550 feet above the sea; and close to it, but 1,175 feet lower, is Jebel Músa (Moses), the

reputed Sinai. Jebel Umm Shomer, long thought to be the highest of any, but in reality some 100 feet lower than Jebel Zebír, is a few miles further south. The noble cluster of Serbál, and its neighbour, Jebel el Benát, lie some twenty miles to the north-west.

JEBEL ET TÍH.—The Tíh plateau, or inner triangle, on the other hand, is very different in character. It presents a succession of broad, undulating plains, covered for the most part with dark flints, which contrast strongly with the dazzling white cliffs of the low hill ranges, chiefly of cretaceous limestones, that here and there traverse the plateau. Its north-eastern part is drained eastward into the Wády el 'Arabah and the Dead Sea; but the rest, including nearly all of the inner triangle to which reference has been made above, is drained northward into the Mediterranean by the great Wády el 'Arísh and its numerous feeders.

WÁDIES.—The southern hill region is intersected by a curious complication of wádies, deeply cut by the mountain torrents, and winding and coursing in every direction. The term *wády*, from the Arabic word *wada*, of which one meaning is "to flow," has a somewhat wider signification than its nearest English equivalents, "valley" or "watercourse." It is, indeed, applied to almost any natural depression which drains the soil, from broad valleys or barely-perceptible hollows in the desert plains to deep gorges or narrow defiles, and even mountain glens. It is limited in one direction only by the equivalents for "ravine" and "gulley."

The wádies are, in a certain sense, the rivers of the

desert—rivers run dry, it is true, or at least flowing but very seldom, yet corresponding in every other respect with the river systems of moister countries. Shores strewn with *débris*, waterworn boulders, caked soil curling up in huge slices, piles of drift, reefs, bays, channels, and other unmistakable signs of the passage of water, meet the eye at every turn. So exactly, indeed, do these desert valleys resemble river or torrent beds but quite lately left dry, that at first a stranger unacquainted with the peculiarities of the climate is very naturally puzzled to account for such constant signs of water in a region where water itself is so seldom found.

The wádies are also the main roads of the desert, and they form the homes of the Bedawín. As roads, they are sometimes of the roughest, full of rocks, boulders, and other difficulties; but many of the larger ones afford good travelling over smooth, firm gravel. Except to the hunters and shepherd-girls, the mountains are but little known, and they are so rugged that, if it were not for the wády-beds, which enable the Arabs and their camels to pass from point to point without difficulty, traffic in the mountainous parts would be out of the question, and the country uninhabitable.

Of the valleys in the western half of the peninsula, the most important is the Wády es Sheikh, called in its lower part Wády Feirán. About eighty miles long from its source in the heart of the central mountains to its mouth on the western gulf, this fine wády drains with its tributaries an area of some 700 square miles, winding through one of the most interesting districts

in the country, and passing on its course through nearly every description of Sinaitic scenery. At two points it contracts to narrow, winding gorges of uncommon grandeur. The first of these is El Watiyeh, where the wády makes its exit from the Jebel-Músa



PASS OF FEIRÁN.

cluster by a crooked pass no more than thirty yards wide in places, and overhung by rugged granite cliffs 2,000 feet in height. The second, lower down, is the pass of Feirán, well loved by the Bedawín, and well remembered by every traveller who has seen it. Here, for eight or nine miles, the valley winds through the gneissic ranges on the northern side of Jebel Serbál, in a splendid defile, which, from

the beauty of its natural features, and from its historical interest, is one of the most remarkable spots in the peninsula.

In the great plains of the Bádiet et Tíh, and in the flat strip south of Suez, the wádies are few and but faintly marked, being for the most part mere slight depressions, which the barometer will probably be the first to indicate to the traveller, and which are so imperceptible to the eye that even the Bedawín often get confused and uncertain as to their whereabouts. As already told, the Wády el 'Arish is the principal drainer of the Tíh plateau.

GEOLOGICAL STRUCTURE.—By far the greater part of the Jebel et Tor consists of crystalline rocks, chiefly hornblendic granite. These form the nucleus of the peninsula, and comprise all of the southern mountainous area from Rás Muhammed to the parallel $28^{\circ} 35'$ N., with extensions north-east and north-west, the whole—to borrow an illustration used by a *Saturday Reviewer*—rudely resembling on the map a goat's or ass's head, with its mouth turned southward. Next succeeds a wide, irregular band of metamorphic rocks, placed like a frontlet between the ears or horns, and crossing over and curling round the tip of the one to the left (west) hand; then a narrower band of red sandstone, of carboniferous age, very like that of Cheshire—both this and the band last-mentioned stretching pretty well across the peninsula; after which, and overlying all, come the cretaceous strata of the Tíh, which fill up the whole remaining space. The sandstone strata belong to the same series as those which have been found in Egypt, Nubia, and

Arabia Petræa, similarly resting on granitic and metamorphic rocks, and underlying the cretaceous strata; and are of the kind known as Nubian sandstone. On the western side, the cretaceous rocks are limited to the Tih, except at one part about sixty miles from Suez, where they descend to the coast, and again between that and Jebel Serbál, where they and the sandstone reappear in narrow strips side by side; but on the east they project to some distance beyond (south of) the Tih escarpment. Though this escarpment and the older southern rocks are doubtless girdled by Tertiary strata, these latter are exposed at three places only—on the coast fifty miles below Suez, again on the coast between El Markhá and El Gá'ah, and, lastly, at Rás Muhammed: tertiary sandstones and nummulitic limestones appear at these points. Finally, the maritime plains and beaches, which form a fringe round nearly the whole peninsula, are of desert drift and alluvium, and “raised beaches,” some of the last named being as many as thirty feet above the present sea-level.

It seems then, according to the authority previously quoted, that in Palæozoic times the present nucleus of crystalline mountains formed an island in the sea, and that the Nubian sandstones were accumulated on its shores from the decomposition of the hornblendic rocks. A deeper subsidence produced the Tih limestones, and then, during a long period of upheaval and occasional depression, the channel which separates the Tih escarpment from the southern ranges was cut out, and the nummulitic limestones and other tertiary formations were deposited on the shores of

the peninsula ; and finally, by a comparatively late upheaval, the fringe of beach was itself exposed to the action of the waves.

DYKES.—One striking and peculiar feature in the geology of the peninsula is the very great frequency of dykes of hard intrusive rocks, chiefly basalt and greenstone, in the granitic and gneissic districts. These give a curious appearance to the scenery. As there is no soil or vegetation to hide them from view, and as they are usually of darker colours than the rocks around them, some deep red or brown, others olive green, and some quite black, they stand out on the naked landscape as conspicuously as the stripes on a zebra's back, and from a hill-top may often be traced for many miles. They are of all breadths, from a few inches to several feet. While some are separated by inches only, others are from 50 to 100 yards apart ; but they always preserve a general direction from N.N.E. to S.S.W.

MINES.—Perhaps the most important geological district, especially from an antiquarian point of view, is that of the Nubian sandstone in the north-west, as having formed the seat of very early mining operations by the ancient Egyptians and the primitive inhabitants of the peninsula. Turquoise, copper, iron, and manganese were extensively worked for in the valleys and cliffs on the south edge of the Debbet er Ramleh, near the junction of the sandstone with the granitic and metamorphic rocks. Large heaps of slag, scorïæ and other refuse, and remains of mining tools, still mark the extent of these ancient works. The ores of iron and manganese were extracted from a

thin band of highly crystalline limestone separating the upper and lower beds of sandstone. The turquoises were nearly associated with these ores, being found in joints and cracks in the sandstone within a few feet of the limestone band, but sometimes imbedded in the solid rock itself. The copper seems to have existed in very small quantities, chiefly in the form of blue and green carbonates. Further south, at Wády Igne, where the sandstone occurs again, is another extensive range of turquoise mines, with some probable traces also of copper-smelting; but the limestone band containing iron and manganese does not reappear.

At these two localities the early Egyptians left undying memorials of their labours and sway, in the monuments and hieroglyphic tablets which they carved on the rocks and caves, and a temple with inscribed *stelæ* (upright stone tablets) on the heights of Sarábit el Khádim. The delicate workmanship of these remains, the most recent of which cannot have been sculptured less than twenty-nine or thirty centuries ago, and the wonderfully perfect state in which, owing to the desert climate, they have been preserved through a long roll of ages, entitle them to take rank amongst the most remarkable relics in the world. Some of the tablets at Maghárah (Wády Igne) must on the lowest computation have been executed between 4,000 and 5,000 years ago; yet, though their surfaces are discoloured by age, and the rocks cracked in places, the carving is as intact in many of its finest details as if it were fresh from the sculptor's hand.

INSCRIPTIONS.—Another feature of interest in this

region is the prevalence in it, in great numbers, of the so-called "Sinaitic" inscriptions, for which the smooth surfaces of its sandstone rocks offered ready tablets to scribbling wayfarers from twelve to twenty centuries ago. The most plentiful collection of them in the whole country is in the Wády Mukatteb, close to Maghárah, where the low cliffs are dotted for a distance of three or four miles with inscriptions of this class, mostly in good preservation.

ASPECT AND SCENERY.—An idea will have been gained, from the foregoing sketch, of the main geographical and geological outlines of the peninsula. Its general aspect is one of extreme barrenness and desolation. The three chief features of its scenery, the mountains, the wádies, and the plains, are, with few exceptions, parched and sterile. Though the distribution of land and water in this region would seem to favour the expectation of a fair supply of moisture, rain but seldom falls. Consequently, there are no rivers or far-flowing streams, and vegetation is very scanty; while the sun's intense heat and the excessive dryness of the air combine with a rapid drainage, unchecked by cultivation, to perpetuate the general barrenness. The hills have no soil or verdure, to "disguise their ruins or give beauty to their decay," while the plains are blank arid wastes, and the valleys for the most part waterless and nearly bare.

But, though the surface of the Desert is thus nearly destitute of soil and herbage, the effects of light and air do much to redeem the character of its scenery. A brilliant sunlight, a sky generally cloudless, and an atmosphere of surpassing transparency, serve to

gladden and even beautify the landscape. Under their softening influences, the very nakedness of the rocks imparts warmth and splendour to the scene. Although the combinations of lake and meadow, wood and stream, which diversify the face of nature in less barren countries are wanting in the wilds of Sinai, its desert cliffs and crags, when lit up by a bright sun, glow with rich and exquisite hues such as are to be seen in few other parts of the world.

The variety in colouring is very great. While the sandstone usually exhibits warm tints of brown and red, the gneissic rocks are of pale brownish or myrtle green, streaked with dykes of purple, black, dark red, and other sombre hues. In the granitic districts, red, brown, white, rose, and gray are the chief colours, varying according to the quantity of quartz, felspar or iron which the rocks contain. To these may be added the browns and drabs of the valley-beds, the yellow of the open desert, and the glaring whites and grays of cretaceous and tertiary strata, these last being often streaked with brilliant clays, of lilac, maroon, and crimson. When seen under an overcast sky, or in shadow, or from a too near point of view, these colours often look dull and dingy enough. But seen in the great masses in which they appear in the landscape, and kindled into gorgeous hues in sunshine, their effects are singularly beautiful, while in the distance they soften into hues of the subtlest delicacy. Much has been and might be written on the wonders and beauties of Sinaitic scenery. Travellers and authors, with hardly an exception, have dwelt on them

in glowing terms—the glories of the sky and landscape, the scenes at sunset and sunrise, in cloud and storm, of night as well as day. In clear weather, the firmament by day is wonderfully blue; by night, the stars seem to sparkle with a radiance unknown to dwellers in our humid northern climates. Perhaps few more striking sights are to be met with anywhere than the views in fine weather from the higher mountain tops. They have a charm peculiarly their own, in their strange mixture of wildness with softness, and of desolation with beauty. Verdure, water, cultivation, settlement, snowy peaks and glaciers—all the accessories which generally go to make up a landscape—are here entirely wanting. Instead of them, you have only the bare desolate peaks, rocks, and gravel, the blanched cliffs of the Tih, with, perhaps, a distant view of the sea, and of the mountains of Arabia or Africa seen faintly far away. Yet there are fine forms in the tumbled masses of hills, and soft warm tints of which the eye never tires. And more fascinating, perhaps, than anything else is the study of the marvellous complication of hill, valley, and glen, which is spread out like a model at your feet, with every detail distinctly seen in the clear air of the Desert.

To the lover of the grand and picturesque, however the scenery of Sinai certainly reaches its climax in the wádies which wind through the crystalline mountains in the central and southern parts of the peninsula. Here, as you advance into the heart of the country, the natural features grow more imposing at every mile. The wádies sweep in bold reaches between lofty hill ranges, or at times break through them by narrow crooked

defiles of surpassing beauty. In some of these defiles the scenery is in the highest degree wild and sublime. The cliffs, pressing closely in, tower to vast heights. Here and there you pass the mouths of branch valleys, disclosing endless vistas of mountains ; or, again, the opening into some tributary glen piled with the *débris* of centuries gives a glimpse of scenery of a weird and awful kind. The natural wonders are, moreover, heightened in effect by a deathlike silence and stillness, and an absence of any signs of life.

NOMENCLATURE.—One of the most interesting subjects connected with the geography of Sinai is that of the native nomenclature. The subject, moreover, is important as well as interesting ; for, as is obvious, a mere map of any country, however good, is of little use for geographical or historical criticism if not accompanied by an accurate account of the nomenclature ; and this is perhaps especially true as regards the study of sacred geography.

Prior to 1869, however, the Sinaitic nomenclature was very imperfectly known. Few scholars competent to undertake so difficult an investigation had ever visited the country, and even they had not stayed there long enough to make much progress in it. The task was one requiring time and pains, and peculiar qualifications in the investigator. When we remember how hard it is, even in a country like England, to determine the correct nomenclature of a single district, we can imagine how very much harder it must be to do so in the desert of Arabia, where there are no records or literature of any kind, and where the inhabitants, though shrewd and intelligent enough in

their own sphere, are unable to comprehend the simplest ideas of civilized life, or to understand what possible interest or importance there can be in such an investigation.

The difficulties of the language have also proved a fertile source of error. Few travellers know Arabic well; but even a scholar, until he had mixed for some time with the Bedawín, and gained a thorough knowledge of their idioms and peculiarities of dialect and character, could not rely upon a single piece of information which they might give him.

In consequence of these difficulties, the most absurd and startling errors had crept into our maps and books, making worse than nonsense of many of the Arabic names. But in 1868-9 the subject was at length fairly mastered by Mr. (now Professor) E. H. Palmer, of St. John's College, Cambridge, who accompanied the Sinai Expedition for the express purpose of investigating the native names, manners, and traditions. Mr. Palmer brought the highest erudition and qualifications to his task. He is one of those men of rare linguistic powers and attainments who are so seldom met in any country, and who at the early age of twenty-five not only spoke, but wrote, Arabic and Persian thoroughly well, and possessed besides a very considerable knowledge of Hindustáni. To his investigations in Sinai he devoted much care and research, taking the utmost pains to secure the accurate orthography of the names as the natives know them. The fruits of his work are contained in a copious catalogue of the names which were collected in the districts surveyed by the Sinai Expedition,

giving their Arabic orthography, their etymology, and signification. This catalogue, with the dissertation preceding it, as published in the official account of the Sinai Survey, will always remain a masterpiece of Oriental erudition and research, far exceeding in value all previous attempts of the same kind, and fully maintaining its author's high reputation.

It would be only natural to expect that a country so little varied and so thinly peopled as the Sinai Desert must possess a scanty nomenclature; but, on the contrary, it is very copious. The Arabs of each particular district have an appropriate name for every separate feature in their locality, whether rock, mountain, ravine, or valley. There are three classes of names, derived respectively from some natural or physical peculiarity of the spot, from former owners or inhabitants, and from legendary or historical associations. The first of these classes is by far the most numerous. Every physical mark or characteristic, however slight, and all the natural products of the soil, have been pressed into the service of the nomenclature. Thus, the colours, sizes, and shapes of objects, their substance, character, and position, the products of localities, whether vegetable or mineral, and the birds, beasts, or reptiles which frequent them, all figure more or less conspicuously in the names.

To give an instance or two, Jebel Umm Iswed is the "mountain of *blackness*," from its colour; Wády Jebáah, the "valley of *pools*," with which it abounds; Jebel Hadíd, the "mountain of *iron*," from its veins of iron-ore; Wády Emleisah, the "*slippery* valley," from its polished boulders; and Jebel Jiddet el 'Elá, the

“mountain of *high dykes*,” from the conspicuous dykes which streak its summit. Jebel Serbál is the “mountain of the *shirt* (or *coat*) of *mail*,” a name derived, by a pretty metaphor, from the appearance of the smooth granitic rocks and domes on its summit, when covered, during rain, with a sheet of glittering water. Rás Sufsáfeh, the great peak at the north-west end of Jebel Músa, which is probably that from which the Commandments were first proclaimed, owes its name to a little willow or osier which grows in a basin behind it; and the large plain, Er Ráhah, which it overlooks, is so called because, like the mountain-range of the same name near Suez, its flatness resembles that of the open palm, *ráhah*.

The present names are entirely Arab : there are few traces of the ancient Scriptural names, and even that of Sinai, as has been already remarked, does not occur in the native nomenclature. This, however, is not surprising, when it is remembered that the Israelites spent but little more than a year in the peninsula.

There are, nevertheless, a few names in which, with no suspicion of a monkish origin, may be detected lingering records of some of the events of the Exodus. Reference has already been made to the Bádiet et Tih or “Wilderness of the Wandering,” as connected with the forty years’ wandering of the Israelites. The name, Feirán, of the principal wády in the peninsula is, undoubtedly, a corruption from the Hebrew Paran, the Bedawín being unable to pronounce the letter p. The word in its present Arabic form is the plural for *fárah*, “a mouse,” and is derived, according to the Bedawín, from the numerous holes in the rocks

at the old monastic settlement in this valley, on the north side of Jebel Serbál, at one time anchorites' cells and caves, into which, say the Arabs, the hermits "used to creep like mice." The Scripture appellation "Horeb" possibly survives by a phonetic corruption in the name, Jebel 'Aribeh (from the plant so-called), of a peak close to St. Catharine's Monastery at Jebel Músa, the two words being etymologically identical. Within a few miles of the same spot is the Engaib 'Imrán or "pass of Amram." In the desert south of Suez we find the Wády Mereira or "valley of bitter water," not far from the probable site of the Scripture Marah. Moneijáh, or "conference," is the word always used by the Towarah Arabs when referring to the manifestation at the Burning Bush; and there are two mountains of this name in the peninsula, one close to Jebel Músa, the other near Jebel Serbál. Jebel Zebír, from *zabara*, "to write, or engrave," is the native name of the highest mountain in the country, and is interpreted by all Arabic lexicographers to mean "the mountain on which God spake to Moses." To these may be added 'Akabah, the "defile of Eloth" (as already explained), at the head of the eastern gulf; 'Ain Hudherah, probably the spring of Hazeroth (the consonants in the two words exactly corresponding), about forty-five miles north-east of Jebel Músa; and one or two others. Here the most obvious connections cease, though Professor Palmer suggests that possibly other clues may yet be found.

CHAPTER II.

CLIMATE AND VEGETATION.

RAINFALL AND FLOODS.—IN the chapter just ended several references have been made to the generally barren character of the peninsula, and the extreme dryness of its climate. The country, however, is not wholly rainless, nor wholly destitute of vegetation. In winter and spring there are generally a few showers, sometimes lasting for several hours in a steady down-pour. Those of winter fall as snow on the higher hill-tops, in quantities sufficient to lie for some days before disappearing. Heavy dews occasionally fall. Between December and May, sudden and violent rain-storms sometimes burst over different parts of the country, and give rise to highly destructive floods, or *seils*, in the valleys, which are much dreaded by the Bedawin. It is interesting to observe how truthfully the Desert nomenclature points out the character of its water supply. While on one hand, the fact that every little spring, or pool, or streamlet has a name, and is as well known to each Arab in the district as the broadest valley or the highest mountain, is a clear proof of the general scarcity of water; on the other hand, such names as Jebel el Ghurgán, the “mountain of the drowned,” Wády Umm Seilát, the “valley of torrents,”

Wády Bugíyeh, the "valley through which water rushes with the sound of a trumpet," tell just as plainly of the rain-storms and their devastating floods.

The *seils* are very local, and usually extend to but small areas. They are also uncommon; hence they do not much affect the general annual rainfall, the average of which for the whole country is probably little more than an inch. In five months of an ordinary winter and spring—namely, from November 23, 1868, to April 22, 1869—but nine-tenths of an inch were registered by the Sinai Expedition, though this was the wettest season of the year. Their effects in the valleys and deep mountain-gorges are, however, very serious, and sometimes disastrous, and often extend for many miles. Falling in almost tropical abundance on the rocky peaks and hill-sides, the rains rush down from them as from a slated roof, with scarcely diminished volume, into the highly-inclined valleys below, and soon form a boiling torrent, which hurries at frightful speed along the nearest path towards the sea, gathering mass and impetus at every mile, sweeping away all obstacles, and laying waste the surface of the country. This lasts for a few hours only, after which the weather clears, the floods cease as suddenly as they began, and soon nothing is left to tell of them but the havoc they have wrought in the valley-beds, and the few pools which linger for a short time in the rocky hollows.

Though signs of the rush of water are visible in nearly every desert wády, it is in the gorges with which the hill-region abounds, and in which the waters, limited here to a narrow channel, rise at flood-time

to heights of ten, twenty, and even thirty feet, that the effects of the *seils* are most apparent. The worn and polished cliff-sides, the huge boulders which lie jammed in the narrow way, and the wide-spread signs of devastation above and below, convey a vivid picture of the resistless rush of the floods. "When a *seil* comes," say the Bedawin, "it is not a river, it is the sea." And this metaphor can hardly be called an exaggeration.

From the above account of the phenomena of the *seils*, it will be seen what good reason the Bedawin have to dread them. So constant, indeed, is their apprehension that, even in the finest weather, they can seldom be induced to encamp in the actual bed of a wády, still less in one of the narrow gorges. Clear though it may be above their heads, they know well that in the mountains far off there is possibly impending danger. A rain-storm may burst over the head of the wády, miles away, and the first notice they will have of it will be a headlong wave of water, certain to sweep them to sudden destruction if they are caught by it in the channel of the wády, or in a mountain defile. On some occasions results of this kind have actually happened. In the great *seil* of the 3rd of December, 1867, the worst which has happened within living memory, thirty persons perished thus, besides scores of sheep, goats, camels, and donkeys; in fact, an entire Arab encampment, which had been pitched in the mouth of a small valley on the north side of Jebel Serbál. The oasis of Feirán was also sadly ravaged by the flood. About a thousand palm-trees were swept away, and a tamarisk grove two miles

long; the wells were filled up, the gardens destroyed, and the herbage uprooted for many miles. The Rev. F. W. Holland was so fortunate as to witness this fearful storm from a point in the oasis, and he has given a graphic description of it in chapter viii. of the "Ordnance Survey of Sinai." Its most extraordinary feature seems to have been its suddenness. Though a few drops of rain began to fall at 4.30 P.M., it was not until five o'clock that the storm really set in. The rain then fell in torrents, and was accompanied by heavy wind and by incessant thunder and lightning. In fifteen minutes every ravine and gulley in the mountains was pouring down a foaming stream. In little more than an hour, *i.e.* at a few minutes past six, Wády Feirán, at that point about 300 yards wide, was filled with a raging torrent from 8 to 10 feet deep. Men, animals, and trees swept past upon the flood, and huge boulders ground along the wády-bed with a "noise as of a hundred mills at work." About this time the rain stopped where Mr. Holland was, though clouds still hung over Jebel Serbál. At 9.30 it was quite fine, and the flood, its force spent, was subsiding quickly. Next day, at 6 A.M., the torrent had dwindled to a mere rivulet, little bigger than that which ordinarily waters this part of the wády. Well, indeed, might the patriarch Job, who doubtless had an intimate knowledge of the phenomena of these brief but devastating floods of the Desert, declare of the Almighty, "Behold, He withholdeth the waters, and they dry up; also He sendeth them out, and they overturn the earth" (Job xii. 15). Or, again, of the destruction destined to overtake the rich man:

"Terrors take hold on him as waters, and a tempest stealeth him away in the night" (Job xxvii. 20).

The enormous quantities of alluvium and *débris* which are brought down by these sudden floods and deposited on the coast account plainly enough for a peculiarity which is very noticeable on the map of the peninsula; namely, that the promontories in the coast-line occur opposite to the mouths of the valleys, just where, in most countries, we should expect to find bays, caused by the constant flow of streams wearing out their own channels. At Sinai no such ceaseless agent as this latter is at work, but every now and then a *seil* brings down a vast amount of *débris*, which, when the stream loses its impetus in the sea, at once sinks and forms a shoal. Thus, at each successive flood, the land gains slowly on the sea. To the action also of *seils*, Mr. Holland traces the origin of certain peculiar deposits of alluvial gravels, called *jorfs*, which are often met with at and near the junctions of the mountain wádies, where they are seen as cliffs, sometimes 80 feet in height. Some are of fine alluvium, well stratified; others are coarser, and contain large stones and boulders. In his opinion of their origin, Mr. Holland differs from other geologists, Mr. Bauerman believing that the gravels must have been originally deposited by lakes or slowly-flowing streams; while Dr. Fraas considers the accumulations to be due to the action of glaciers, because the blocks and stones of all sizes, from 1,000 cubic yards to mere sand and gravel, are tumultuously tumbled together in a manner in which, as he believes, no other imaginable power could have aggre-

gated them. Dr. Fraas also describes the walls of rubbish through which the modern streams have cut narrow channels, as being piled across the principal or the secondary valleys precisely in the manner of lateral and terminal moraines. Neither of these geologists, however, had witnessed, as Mr. Holland had, the stupendous effects which may any day be produced by a really violent *seil*, experience of which, during and after the flood of 1868, has led him to assert his belief that the "jorfs" owe their origin to causes which are still at work in the peninsula. His assertion is supported by an ingenious and practical argument, showing the peculiar combinations of effects which might be produced, varying with the course, extent, locality, and violence of the rain-storms, and the different levels and lengths of the wádies, and showing also how these effects would serve to account for all existing appearances.

HEALTH.—In point of salubrity the climate of the peninsula is one of the healthiest in the world, and in the higher districts it is particularly agreeable. A little fever is sometimes felt in the lowlands when hot winds dry up the pores of the skin, the hill country, however, being free from it. At the time of date-harvest, Tor and Feirán are said to be unhealthy; but this may be partly or wholly due to the bad quality of the water at that season. An epidemic called "yellow-pest," perhaps the plague, sometimes comes with the sirocco winds, but seems to be limited to the lower altitudes. In the words of the Bedawín, "it never attacks them in the mountains of their Lord Moses, where grow the *shíah* and the myrrh."

Small-pox also is not unknown. But, with these exceptions, the peninsula is strikingly salubrious.

In the central elevated valleys, from 3,000 to 5,000 feet above the sea, the climate is indeed almost perfect. A purer air or a bluer sky could hardly be desired. Rain but very seldom falls; and a storm, when it does occur, is followed by days, if not weeks, of matchless weather. At these times the atmosphere is deliciously light, dry, and bracing. Though the sun shines fiercely, it is always cool and pleasant in the shade, an abundance of which may be found at nearly all hours in the deep, narrow wádies; while the nights are refreshingly cool in spring and even summer, and in winter are often very cold, with hard frost.

TEMPERATURE.—The extreme daily range of temperature is usually great, and, but for the dryness of the climate, the rapid transitions from heat to cold would doubtless be trying to the hardiest constitutions, even under the most favourable circumstances. In the month of December, 1869, the average daily range at the camp of the Sinai Expedition, close to St. Catharine's Monastery (altitude 4,854 feet), was $30^{\circ}.2$ Fahr.; but on some days it reached to 48° , or from about 22° at night to 70° in the shade by day; while in April, 1869, the average was $32^{\circ}.9$. Although to a well-equipped European these violent changes are bearable and harmless in the dry air of the Desert, to the ill-clad Bedawín, on the other hand, they bring severe suffering, especially in the keen winter nights among the mountains, and are probably the chief cause of the pulmonary and rheumatic

diseases with which they are troubled. It is curious that, though the Israelites, fresh from the warm climate of Goshen, must have felt the cold acutely in the Sinai mountains, the Bible makes no reference to it, unless indeed we may infer that the humane command in Exod. xxii. 26, 27, was designed to secure for the poor some protection against the coldness of the nights.

The mean monthly temperature at the camp above mentioned was $44^{\circ}.2$ in December, 1868, and $58^{\circ}.7$ in March, 1869. At Feirán (altitude 2,036 feet), in January and February, 1869, it was respectively $54^{\circ}.1$ and $55^{\circ}.5$. The highest shade heat observed by the Expedition during their stay was 87° , in April. The summer temperatures of course exceed the figures above quoted, but are never insupportably high.

In the lowlands and littoral plains, the climate, if hardly less healthy, is by no means so enjoyable as that of the highlands. The luxury of shade is here almost unknown, the heat is much more severely felt, and the glare from the white rocks and cliffs is most distressing, especially in the limestone districts, dazzling the sight, and drying up and cracking the skin of the face unless it is closely shrouded, Arab fashion, in a *kufiyeh*. The soil also becomes intensely heated and glowing, and is painful to walk upon. Everywhere in the Desert, however, and at all seasons, there is hardly an exception to the refreshing coolness of the nights and early mornings. Everywhere, too, there is that wonderfully pure invigorating air which preserves the bodily health and strength in spite of all discomfort and fatigue, and continually braces the

nerves and energies. "No one," writes Major Wilson, "who has travelled in the Desert can forget the exhilarating effect of the fresh morning air, or the joyous feeling of life and strength which it brings with it: the mere act of breathing is a pleasure, and we can hardly be surprised at the stories which have been handed down of the great age attained by many of the hermits, or that they believed that man needed in the Desert 'hardly to eat, drink, or sleep, for the act of breathing will give life enough.'" Doubtless, this wonderful air must have done much to assuage the sufferings of the Israelites in the Desert.

ATMOSPHERIC PECULIARITIES.—One of the most peculiar properties of the air is its intense dryness. On March 20, 1869, at the camp, near St. Catharine's, above mentioned, the wet and dry bulb thermometers showed a difference of temperature of 20° , and it is said that in summer this difference sometimes reaches even to 30° . In the same March, the average temperature of the dew-point was 29° below that of the air. To this excessive dryness is mainly due the wonderful state of preservation of the archæological remains already referred to. Change and decay make but slow progress in the Desert. As an instance of this, it may be interesting to mention that Professor Palmer, who returned to Sinai in December, 1869, eight months after the Expedition had left it, found the marks of their surveying chains in the gravel, and even their individual footprints, apparently as sharp and distinct as on the day when they were impressed, a year or so before. "In one of the mines near Maghârah," writes Major Wilson, "we found a

wooden support for the roof, which must have been in the same position more than 2,000 years, and in other places we noticed objects of a perishable nature which had suffered little during the lapse of years."

The dry state of the atmosphere accounts also to some extent for its remarkable clearness, for the stillness of the Desert, and for the gorgeous colours of the sky and landscape. The clearness not only enables small objects to be seen at incredible distances, but renders it difficult for the most experienced eye to judge of the true or relative distances of different points in the landscape. Photographs especially fail in the latter respect, though on the other hand they show a truly wonderful amount of detail, and perfect sharpness of light and shadow. The stillness of the Desert is usually profound, sometimes unbroken for days together even by wind, or by any sound which the sharpest ear can detect. "It was, perhaps, this feature, more than any other, which caused the Desert to become, in Sinai as well as in Egypt, the favourite dwelling-place of the old hermits: there was nothing to divert their minds from that constant contemplation of the Deity in which they loved to pass their lives." To the beautiful colouring of the landscape reference has been already made. More exquisite still are the colours of the sky, especially those at sunrise and sunset. The glories of the afterglow are seen in Sinai to great perfection. In calm dry weather the afterglow is sometimes followed by a phenomenon of rare beauty. About half-an-hour after it has ceased, and when the stars are shining brightly, the whole circle of the sky for some fifty degrees

above the horizon becomes covered with "a soft blush-rose colour, which has the most beautiful effect, forming an exquisite setting to the rough granite peaks of the mountains. The colour has the true aurora hue which is so happily called by Milton 'celestial rosy-red.'" It is deepest at the horizon, fading gradually away towards the zenith.

WINDS.—The winds of the peninsula present no features of striking interest. Their normal direction is westerly, or from that to north, and while it blows from these quarters the weather is usually fine and pleasant. In winter, heavy gales, unaccompanied by rain, are not unfrequent; they begin very suddenly, and are of short duration, seldom lasting more than twenty-four hours. The effect of these gales in the higher hill region is not wanting in grandeur, the wind rushing with prodigious velocity and with a loud roar through the deep narrow wádies and clefts in the mountains, driving gravel and dust high into the air, and literally turning the country into "a howling wilderness." Small whirlwinds are very common: they start up like magic in the beds of the valleys, and rush along with great force till they break against some obstacle. In spring and summer there are occasional *khamasín* or sirocco winds. These form by far the most trying and disagreeable feature of the Desert climate. They usually blow from south and south-east with the force of a gale. A dull leaden haze, sometimes dense enough to hide the sun, spreads over the sky, and the air becomes filled with fine impalpable dust, which penetrates everywhere. In the highest parts of the peninsula, a general feeling of

depression and languor is the only unpleasant effect of the *khamasín*. In the lowlands, however, the case is very different. Here, the wind sweeps with scorching fury over the wádies and plains, and raises hot clouds of sand and gravel, which are driven with cutting effect against the skin ; the blast is so hot that one hardly seems to breathe, and so oppressive as to relax both the bodily and mental faculties, arresting also freedom of perspiration, and thus inducing a feverish state of health. At times the wind is strong enough to raise the heavier particles in the form of a "sand-storm," or more correctly a "gravel-storm," the pain and discomfort of which, both to man and beast, can only be realized by those who have encountered one.

SPRINGS AND STREAMS.—Small though the annual rainfall is, its effects are by no means imperceptible. The rain, dew, and snow, sinking gradually through cracks in the rock, become the sources of numerous springs. In the granitic district, especially in the neighbourhood of Jebel Músa, these springs are abundant to an extent not generally known, and are accompanied, as is always the case in the Desert where water appears, by a considerable growth of rude vegetation. The ordinary traveller or tourist, who seldom leaves the beaten tracks, thinks that the country is nearly waterless, and little suspects the true character of many a picturesque and romantic glen almost within hail of his route. In spring and early summer, several of the smaller wádies and glens amongst the central mountains are gladdened for short distances by little running streams. Some, indeed, of these streams are perennial, and are never known to fail,

even in the driest seasons. Their course is fringed with abundant verdure, and every here and there they spread into the most lovely pools in rocky nooks and basins, overhung by a profusion of maidenhair ferns. Many of the larger wádies also exhibit similar features on a more extensive scale, and contain copious springs and well-marked tracts of vegetation.

OASES.—These oases usually occur in and near the gorges of the valleys, where, owing to contraction of the channel, the previously hidden moisture is forced up to the surface. By far the most extensive and beautiful of them is the oasis of Feirán, in the defile of that name already mentioned. This lovely spot has been well termed the Eden of the Sinai Desert. A rich grove of date-palm and other trees winds for three or four miles through the valley, clusters of rude Bedawín houses or tents here and there skirt the trees, birds of song flit among the branches, and a meandering brook ripples cheerily under their shade. Another, and of its kind unequalled, instance of fertility is seen at the back of the little seaport of Tor on the west coast, where a spacious basin in the plain of El Gá'ah forms a receptacle for such of the moisture drained from a large section of the western highlands as is not absorbed or evaporated in its passage through the plain, and supports a wide tract of highly productive date-palm plantations. There are also extensive palm-groves at Dhahab and En Nuweibeh on the east coast, and other small patches in different parts of the country. Often among the highest mountain basins the explorer comes across some sequestered nook or hollow filled with trees or other vege-

tation. Fertility, in short, is certain to be found wherever from any cause the natural drainage is checked and brought to the surface.

HERBAGE.—The scattered oases and green spots are not, however, the Desert's only produce. The valleys and plains are for the most part clothed more or less sparsely with varieties of those aromatic and almost sapless herbs and shrubs which are peculiar to dry barren soils. Even on the rugged hill-sides, these hardy plants keep up a bold fight for existence in the interstices between loose stones and boulders, or spring from the solid rock itself where some chance vein or fissure affords them holding ground. Though poor and scanty at the best of times, this slight herbage, nevertheless, in its best parts, constitutes now, as of old, feeding grounds of bare but sufficient pasturage for the camels, goats, and sheep which form the Bedawin flocks and herds, and thus helps to make the Desert habitable. In some favoured tracts the spring showers bring forth for a short time a fairly plentiful growth. At this season, plants and shrubs, to all appearance withered and dead, and so dry and brittle that they may be crumbled to pieces in the hand, burst suddenly into bud and blossom. Grass in small quantities may now be seen here and there amongst the boulders, and little herbs and creeping plants come to life in the shady corners and ledges. Tiny flowers, too, sometimes appear, though these very soon droop and die under the withering drought of summer.

CULTIVATION.—Nor has cultivation been altogether neglected. From early Christian times, favoured

spots in certain parts of the peninsula, chiefly in the neighbourhood of Jebel Músa and Jebel Serbál, have been cultivated by the successive generations of monks and hermits who have peopled them during the last sixteen centuries. Wherever these recluses settled, they set to work to make a garden, and enriched it with choice fruit-trees, as well as poplars, cypresses, and others. Most of the gardens are now in ruins and deserted, the chief exceptions being the well-known one at the monastery of St. Catharine, and one or two others in the same neighbourhood which are still kept up by the Bedawín. It is quite wonderful to see, from the existing ruins, how numerous they must have been at one time, and what industry and skill must have been used in making them, in husbanding the water supply, and in building the excellent mountain paths by which they are approached.

It must not, however, be inferred from this description of gardens, oases, and herbage that they are sufficiently plentiful to have an appreciable effect on the general scenery. The gardens and oases are little more than specks in the landscape, while the herbage is at best a thin transparent coating, scarcely seen. To the Arab or passing traveller, each fertile spot has an importance proportioned to its rarity and usefulness, and its contrast with the surrounding barrenness. But in a wider view they are insignificant. The Desert is the Desert in spite of them, and they do not sensibly soften its features or mitigate its general aspect of desolation.

BOTANY.—Though the botany of the peninsula has never been subjected to any very complete scientific

investigation, Ehrenberg, Schubert, Forskal, and other intelligent travellers have brought specimens to Europe from time to time, thus gradually adding to our knowledge of the subject. The latest contribution is the collection made by the Sinai Expedition, consisting of about 180 different specimens of plants, which have been named at Kew, under the authority of Professor Oliver, of the Royal Herbarium.

Trees.—Of native trees there are very few varieties. The most valuable for economic purposes are the date-palm, the acacia, and the tamarisk. The date-palm, or “sorah” (*Phoenix dactylifera*), grows only in moist and favoured spots, and is highly prized by the Bedawín, with whom its fruit is a staple of food. The palms of Feirán are famous for their size and productiveness. Each individual tree in a plantation has its owner, and is inherited with other property at his death. The tree is shapely, with a straight rough hairy stem, sometimes in the finer specimens fifty feet or more in height, surmounted by a crown of leaves under which the dates, when ripe, hang in beautiful scarlet and gold clusters. Besides the date-palm, there is also a wild-palm (*Arab.* “nakh”), of much smaller growth, to be seen scattered here and there in most spots where there is any collection of water or moisture. It is a rugged, stunted tree, only reaching to a height of fifteen or twenty feet, its shaggy trunk half hidden by a thick tangle of green and dead leaves. Though it bears no dates, its leaves are turned to good use in the manufacture of mats, bags, crates, and rope.

The “seyál” or acacia (*Acacia seyál*), remarkable

for the fearful thorns with which it is armed, is less dependent on moisture than the palm, and therefore is more generally distributed, though certainly its finest specimens are found near springs. It dots many of the upland valleys, growing as a rule singly, and not in thick groves or clusters, and is seldom found now at a higher altitude than 2,000 feet. One tree in every district is consecrated to the patron saint, and carefully preserved from mutilation. The patriarchal acacia thus dedicated to Abu Shebíḇ, the saint of Feirán, is perhaps the finest tree of any kind in the whole peninsula. The seyál has been identified with the "shittah" of Scripture, whose wood was largely used in the construction of the Tabernacle and its furniture (Exod. xxv. 10, &c.). Formerly it must have been much more plentiful than at present; for of late years these trees have been cut down unsparingly by the Bedawín, and turned into charcoal for exportation to Egypt. It yields in summer a resinous sap, the "gum-arabic" of the peninsula.

The "tarfah" or tamarisk (*Tamarix mannifera*), pretty plentiful in nearly all moist districts, is a stunted, ill-shaped tree, with gnarled and crooked branches, the ugliness of which is, however, somewhat redeemed by graceful, feathery foliage of a sage-green colour. From June to August in each year its young branches discharge in the daytime, either through natural ruptures in the bark, or punctures by an insect called *coccus maniparus*, small quantities of a medicinal gum, the *mun* or so-called "manna" of the peninsula.

Amongst other trees are the wild fig, "hamátah,"

scattered here and there in the mountain-glens; the "sufsáfeh," or willow (*Salix octandra*); the "bán," a large species of broom; and two or three varieties of tamarisk. In the oases and cultivated gardens are found the "sidr," or lotus-tree (*Zizyphus lotus*), producing a small, acrid fruit called "nebk," much prized by the Bedawín; the carob-tree (*Ceratonia siliqua*), whose long sweet pods are thought by some to be the locusts referred to in St. Mark i. 6, though more probably these were the edible locusts (*Acridium peregrinum*). There are also olives, walnuts, pomegranates, apples, pears, oranges, apricots, almonds, citrons, cypresses, and others; but many of these have doubtless been introduced by settlers.

Shrubs and Plants.—Of bushes, the commonest and largest is the "retem" or broom (*Genista retama monosperma*), identical with the juniper of Scripture, under whose shade the prophet Elijah "lay and slept" (1 Kings xix. 5). Both it and the tamarisk, as well as the acacia, are largely used in the manufacture of charcoal. The "ghárkad" (Forskal's *Peganum retusum*), a low, thorny bush, common near springs, and yielding in summer a sweet, red berry, has acquired some notoriety since Burckhardt's conjecture that its berry may have been the "tree" which was used by Moses to sweeten the waters at Marah. It is certain, however, that the berry in question neither has, nor is supposed by the Arabs to have, any such properties. Much more to the point is a remark by Professor Palmer that the word tree ("shejer") in the Bedawí dialect is simply synonymous with a drug or medicament of any kind.

A large proportion of the lesser shrubs and plants which form the general vegetation of the Desert are highly pungent and aromatic, while many of them are prickly to an extraordinary degree, though their prickliness seems in no way to lessen the relish with which the camels devour them. Amongst the commonest are the "rimth," the "shíah," the yellow-flowered "abeithirán" (*Artemisia judaica*); the "myrr," or myrrh (*Pyrethrum santolinoides*); the "sekkerán" (*Scopolia boreana*); the "ja'adeh," or hyssop (*Teucrium polium*); the "z'atar," or thyme; the "'aldí" (*Ephedra fragilis*); the "gurdhí" (*Ochradenus baccatus*), a thorny plant, with yellow flowers; the "girsúm" (*Helianthemum Kahiricum*); "b'seisah" (*Polycarpæa prostrata*); "jassur" (*Moringa aptera*); and several others.

A conspicuous object in some of the limestone valleys is the bright green caper-plant, or "lasaf" (*Capparis spinosa*), clinging to the white cliff-faces: it is identified with the "hyssop" of Scripture (Numb. xix. 18). Here and there on the hill-sides, though very rarely, the traveller comes upon a stony tract thickly overgrown with the so-called "rose of Jericho" (*Anastatica hierochuntina*), an extraordinary ligneous cruciferous plant, which, though susceptible in the highest degree to moisture, yet flourishes in a desert soil. When growing, it looks utterly withered and dead, but has "the singular property of opening its minute flowers when plunged into water months after it has been gathered"¹ (as the writer has often witnessed); whence its botanical name. Amongst ground-creepers

¹ Tristram, "Nat. Hist. of Bible," 2nd edition, p. 477.

are the *Citrullus colocynthus* and the *Neurada procumbens*.

Flowering plants, as may well be supposed, are scarce. Besides those already mentioned, a sprinkling of such flowers as the pink *Fagonia Arabica*, the Desert camomile with its yellow flowers, dearly loved by the camels, the wild lavender (*Lavandula coronopifolia*), the *Santolina fragrantissima*, and a few others, may here and there be seen in spots where a little alluvium has been collected by the wash from the hills.

The blue forget-me-not thrives near springs ; also wild mint, mosses, sedge-grasses, and other moisture-loving plants. But the plant which of all others has a charm for the Desert traveller or explorer is the beautiful maiden-hair fern (*Adiantum capillus-veneris Sinaiticum*), which overhangs in rich clusters the rocky channels and pools of the little streams in the higher mountain-glens. Nothing could be prettier amidst such surroundings than the bright cool green of these graceful ferns, fresh and flourishing in the shade of overhanging rocks, and, it may be, moistened by the splash or spray of some mimic waterfall. It is remarkable that these tender plants resist the great cold of the winter nights in the higher glens.

Besides the fruit-trees already mentioned, little else is cultivated by the Bedawin. There are, however, some native gardens at Feirán, in which may be seen tobacco, gourds, onions, garlic, cucumbers, maize, and a kind of bean ; and there are scraps of garden-ground in a few other fertile patches.

CHAPTER III.

ZOOLOGY.

EXCEPT in the department of Insects, the fauna of the peninsula has few features of special interest. Nor has it yet received any very systematic attention, though the fragmentary contributions of different travellers give us, when collected, a fairly complete account of it. Hasselquist, the Swede, who travelled in Sinai about the middle of the eighteenth century, was, we believe, the first to give any trustworthy information on its zoology and natural history. Since him, Seetzen, Rüppell, Ehrenberg, Schubert, and others have followed up his investigations; especially the scientific Schubert, whose travels were mainly made in the pursuit of these two branches of knowledge. But the most recent, and, as we believe, the most complete and accurate zoological work has been done within the last twelve years by our own countrymen—the late Mr. John Keast Lord, who was employed in the scientific expedition which was sent to the peninsula by the Viceroy of Egypt in 1868; Mr. Claude W. Wyatt, zoologist of the Sinai Expedition; and the Rev. F. W. Holland, also of the Sinai Expedition, who had brought home some useful specimens after former visits to the peninsula. As

regards Mammals and Avifauna, the united collections and observations of these gentlemen leave little probably to be done, though the subjects of reptiles and insects are not quite so nearly exhausted.

MAMMALS.—In a region where water and vegetation are so scarce as they are in the rocky wilderness of Sinai, we cannot expect to find an abundance of animal life. Nevertheless, the mammals of the peninsula, though by no means numerous, are, perhaps, not so few in number as might be supposed, especially when the extreme scantiness of the food-supply is borne in mind. During the five months which the Sinai Expedition spent in the country, about a dozen species of animals came under observation. Leopards, wolves, and hyænas live in the fastnesses of the mountains, gazelles on the plains of the seaboard, and hares on those of the uplands. The ibex or “wild goat” has the high hills for his refuge, and there are conies among the “stony rocks.” Some foxes, wild cats, jackals, and two or three varieties of mice make up the catalogue.

Carnivora. — Of these, the most formidable is the leopard (*Felis leopardus*, Arab. “nimr”), which frequents the wildest and most inaccessible heights and glens. Probably, however, they are very scarce. Only one was actually seen during the stay of the Sinai Expedition, and footprints were seen on but three occasions in all their extensive wanderings, which is seldom enough when it is remembered that such marks would remain in the Desert gravel for many weeks, and even months, without perceptible loss of distinctness. It is said by the Bedawín that

once upon a time the "nimr" was a man, who, having performed his ablutions before prayer with milk instead of water, was forthwith turned into a leopard.

The spotted hyæna (*Hyæna striatus*) inhabits all parts of the country. Its tracks are often to be seen in the soft gravel of the wady beds, and not unfrequently the cowardly animal itself may be heard or caught sight of prowling at night about the traveller's camp. The Arabs, to whose flocks the hyænas are bitter enemies, set traps for them, consisting of a small tunnel of heavy stones, five or six feet long, and closed at one end, some stones being so arranged above the open entrance that, as soon as the animal goes in and drags at the bait, they fall behind and imprison him. The fore-leg only is eaten by the Bedawín, other parts being forbidden them by their religion.

Jackals (*Canis aureus*) also exist in small numbers; and there is a wolf ("dhíb"), probably the *Canis lupus*, and a species of wild cat.

Of foxes there are at least two kinds, the *Canis sabbar*, and the *Canis famelicus* or "fennec fox," a pretty little animal, one specimen of which, brought home by Mr. Holland, was sent to the Regent's Park Zoological Gardens. It is not the true fennec, *Canis cerdo*, but is referred to the same species as that found in Nubia by Rüppell. It is nicknamed by the Bedawín, Abu'l Hosein, "father of the little fortress," and is much admired by them for its cleverness and cunning.

Ibex.—The ibex (Arab. "bedan"), the "wild goat" of Scripture, haunts the highest regions of the penin-

sula. These animals generally go in small herds, and are extremely shy and wild, the slightest sound hardly escaping their notice. Sometimes they may be seen in the valleys, or low down on hill-sides. More often, however, the traveller's sight of them will be against a background of sky, on the top of some dizzy crag or precipice, a thousand feet or more above his head. When alarmed, they give a shrill kind of whistle, and make off hastily, bounding with fearful agility from rock to rock. Scantly though the Arabs are supplied with food, but few of them are ibex-hunters, owing to the difficulty of the sport. To stalk an ibex is next to impossible; and the usual method is for the hunter to lie in ambush all night by the springs to which the animals come for water in the early morning. The *bedan* lives on herbs and other plants of the Desert; and hence is butpoor eating as compared with grass-fed venison, though not altogether unacceptable as an occasional change of diet in the wilderness.

Gazelle. — The beautiful Dorcas gazelle (*Dorcas gazella*) roams over the large littoral plains, such as El Gá'ah, El Markhá, and those on the eastern seaboard, sometimes frequenting the *embouchures* of valleys, but never quitting the open country; from which circumstance, coupled with the animal's excessive shyness, it is even more difficult to approach than the ibex. Mr. Wyatt fell in with a tame one in the possession of a telegraph official on the Cairo and Suez railway. "It was allowed to take a run every day, and when first liberated it would gather its four legs together, and bound into the air like an india-rubber

ball, and then tear along the line half a mile or so, sometimes going out of sight; a whistle brought it back again at the same headlong pace, until within 30 or 40 yards of its master, when the performance ended as it had begun." This creature had been bought from the Bedawín, and tamed, when quite young.

Coney.—The most peculiar of the Sinaitic animals is the coney (*Hyrax Syriacus*, Arab. "wabar"), one of the "unclean" animals, mentioned in Lev. xi. 5, and Deut. xiv. 7, and the "feeble folk" of Prov. xxx. 26. Though smaller than the ordinary wild rabbit of England, conies are classed by naturalists between the hippopotamus and rhinoceros. They are not unlike a very large guinea-pig, and are of the same colour as a hare. They are found in the mountainous parts of the peninsula, where they make their homes beneath the rocks and boulders with which many of the wádies are deeply piled; and though, perhaps, more numerous than is commonly supposed, they are seldom seen, owing to their retired habits and excessive timidity. Like the leopard, the coney is supposed by the Bedawín to have been originally a man, and transformed into its present shape; and they will not eat its flesh, having a superstition that if a man were to do so he would never see his father or mother again.

Hare.—The Sinaitic hare (*Lepus Sinaiticus*), though very scarce, is sometimes met with in the upland plains and wide, open wádies. This animal, like the coney, is one of those mentioned in Scripture as "unclean," that "chew the cud, but divide not the hoof."

Mouse.—Among the smaller rodents are three species (*Acomys dimidiatus* and two others) of porcupine-mice, common in the mountains, and in the garden of St. Catharine's monastery; the "lerat" (*Myoxus quercinus*); and one or two more. Miss Martineau, and some other travellers, have mentioned the "jerboa" (*Mus jaculus*), though this animal was not met with by the Sinai Expedition.

Domestic Animals.—There are no native wild dogs, but every Arab camp has its quota of those lean, hungry, wolf-like curs, apparently the most miserable outcasts of their race, which seem peculiar to savage homes. The only other domestic animals are the camel, the sheep, the goat, and in rare cases the ass.

BIRDS.—Of the birds found in the peninsula, which, like the mammals, are more numerous than would be suspected, some fifty or sixty species may be considered winter residents; a few stay during summer only, and some must be regarded as occasional or accidental visitors on their way to other countries. In Sinai, as in all mountainous regions, different birds specially inhabit different elevations, some, however, changing their altitude according to the seasons, while others are common to all parts throughout the year. About sixteen species pass winter in the highest regions, where the valleys are from 3,000 to 4,000 feet above the sea-level, while the mountains range up to more than 8,500 feet. Here, eagles and other birds of prey soar grimly and silently over the barren crags; partridges of two kinds scurry over the rocks, and a few chats, warblers, and finches live in the shelter of

the wádies, feeding on the insects which remain, and on the seeds of various plants. Descending a couple of thousand feet to a milder climate, this list is swelled by birds of less hardy kinds. At Feirán (altitude about 2,000 feet), the Persian "bulbul" (*Ixus zanthopygius*) is common at all seasons, and the russet-winged starling and several other species may generally be seen; while spring visitants of many kinds begin to make their appearance in February and March. On the coast plains, most parts of which are very dry and barren, the feathered race is less plentiful than in the hills. Some, however, of the salt-ponds and marshes near shore, especially those of Tor on the west coast, have their own peculiar species. But it is in the oases and green spots generally, wherever situated, with the attractions of trees, plants, water, and insects, that the birds of the peninsula have their favourite habitat.

Birds of Prey.—These are rather scarce. One eagle only (*Aquila Bonellii*) was identified by Mr. Wyatt, though he saw another species. There are two kinds of vultures, the griffin and the Egyptian: the latter of these is very common, and is distributed generally over the peninsula. Every traveller, when on the march, must often have seen a pair of these scavengers waiting in the morning, perched on neighbouring rocks while the camels were being loaded, ready to pounce down and seize any refuse that might be left behind. The Lanner falcon has been seen, but is very rare. More numerous, though by no means common, are the long-legged buzzard, black kite, and Egyptian kite; while the kestrel (*Tinnunculus alaudarius*) may occasionally

be seen in all parts of the country. Of owls there are two kinds, *Phasmoptynx capensis*, and *Athene meridionalis*, or "little southern owl." Though common in Egypt and Palestine, the latter bird is rare in the Desert, and, curiously enough, while he is here regarded with the utmost aversion as a bird of ill omen, he is there considered the very reverse.

Visitants and Migrants; Perching, Game, and Aquatic Birds.—The brown-necked raven, white wagtail, and mourning chat are common almost everywhere. The cuckoo, common swallow, and white stork are sometimes seen, but in migration only, the last-named in immense flocks. Amongst summer birds are the hoopoe, bee-eater, tawny pipit, Galilæan swift, Cairene swallow, wheatear and red-backed shrike. At the lower altitudes, up to about 2,000 feet, are found the black and common redstart and the blackstart, the willow-wren, wryneck, chiff-chaff, and chaffinch; also the rock martin, common house martin, and great grey-backed shrike. In the way of sport there is little or no attraction. A few Greek partridges (*Caccabis saxatilis*) frequent the higher mountain-tops, usually in coveys of seven or eight. In the wádies, the small Hey's partridge is more abundant, but will hardly ever take wing, preferring, when alarmed, to run up the hill-sides, which it does at a pace that gives little chance to its pursuer. Schimper's pigeon is met with in many parts, though it cannot be called plentiful; and the common quail is occasionally seen. A species of sand-grouse (*Pterocles coronatus*), though common enough in the Tih, is rare elsewhere, only frequenting in small numbers the plain of El Gá'ah and the

salt marshes near Tor, already mentioned. In these marshes are found also two kinds of plovers, the reeve, greenshank, waterpipit, kingfisher, common crane, green and common sandpipers, teal, pintail, and others.

Songsters.—With birds of song the peninsula is by no means ill supplied. One of the best of them is the Persian “bulbul,” or “bird of a thousand songs,” remarkable for its soft and plaintive melody. They are confined to one part of the peninsula, the oasis of Feirán, attracted probably by the abundance of “nebk-fruit,” of which they seem very fond. Here they may be seen in numbers at all seasons, sometimes as many as a dozen on a single tree. The bulbul is famous in Persian poetry, and is there said to have a passion for the rose, and to lament and cry on seeing it pulled, or on separation from it.

Two charming songsters, the white-rumped chat (*Dromolæa leucopygia*), and the white-headed chat (*Drom. leucocephala*), are generally distributed, and very common in the mountains. They are among the few species which cannot fail to attract the attention of every traveller, frequenting as they do the most desolate parts of the peninsula, where no other birds are to be seen, and pouring forth their exquisite notes. Mr. Lord, watching their habits, observed that they always slipped out noiselessly soon after daybreak from the bushes in which they had roosted, and, perching themselves on the highest pinnacles of rock, shook their feathers, plumed themselves, and set about their morning toilets. But at the very instant that the sun became clearly visible, then, and not till then, would they all with one consent

begin to warble their exquisite matins, the sweetest, says Mr. Lord, he had ever heard birds sing. Besides the two species of chats above named, many others, amongst them the wood-chat, stone-chat, Desert-chat, and the rare *Dromolæa monacha*, are found in different parts of the country. There are also some half-dozen species of "warblers," the commonest perhaps being Bonelli's warbler (*Sylvia Bonellii*), a spring visitor, often to be seen hovering in search of insects over the blossoms of the *retem* bushes.

REPTILES.—*Lizards*.—One of the most remarkable of the few species of reptiles found in the peninsula is the large lizard called the "mastigure" (*Uromastix spinipes*). A specimen seen in Wády Nasb by Mr. Lord is described by him as about three feet long, with armour very like that of the armadillo, and a powerful tail, not unlike a crocodile's, but more spikey. With this tail, made up of concentric rings of horn-like material, it can strike a blow that would well-nigh break a man's leg. Probably this creature is the same as the "curious, large, sand-coloured lizard, about three feet long, exactly like a crocodile," seen by the Rev. St. John Tyrwhitt in 1862 at the head of Wády Mukatteb. Another large lizard, common in Sinai, is the *Psammosaurus scincus*. Lizards of smaller kinds, a few inches long, including varieties of the gecko, are very numerous all over the country, and are generally of dull colours, like the rocks and soil. Seetzen and Tyrwhitt mention also the chameleon.

Snakes, though not very numerous, are pretty generally distributed, the most dangerous being the *scytalis*, and the deadly *cerastes*, or "asp," which so

exactly resembles in colour the soil which it frequents that, unless it moves, it is little likely to be seen. Amongst the Arabs there is a curious belief that sometimes a pair of snakes may be seen fighting for the possession of a stone, and that he who kills the combatants and secures and wears the stone will have in it a charm against the bites and stings of all venomous creatures. The Bedawín have no professional snake-charmers, though every tribe has its *hawí*, who is supposed to be venom-proof, and to be able to stanch wounds and cure hurts by his breath. These qualities can only be secured to him when an infant by the foresight of his mother, who, for his first solid food, must give him a cake consisting of seven barleycorns, seven grains of wheat, a small scorpion, and a hornet, pounded and mixed up together. It is noticed, however, that the *hawís* invariably keep as far away as any one else from a really dangerous snake.

INSECTS.—Though insects form by far the richest and most interesting class of Sinaitic fauna, they are by no means remarkable for the great sizes and gorgeous colours which in hot climates are wont to excite the traveller's admiration. With few exceptions, they are of unpretending size, and rather partake, like the reptiles and mammals, of the dull hues of the desert in which they live. Professor Palmer and Mr. Lord have done more in this branch than any previous travellers. The former confined himself chiefly to collecting *Coleoptera*, which were afterwards examined and named by the late Mr. G. R. Crotch, of the University Library, Cambridge; but Mr. Lord's

collection, now at the Viceroy's Museum at Cairo, was not thus limited.

Of the order *Coleoptera*, or Beetles, Mr. Crotch remarks that, though it is difficult to draw any general inferences from a limited collection, made under very difficult circumstances and at but one period of the year, yet Professor Palmer's contribution is of the highest interest. Out of 127 species secured by him, 26 are peculiar to the country, while 10 only are common to Europe generally; 20 are found all along the borders of the Mediterranean, and the remainder are confined to Egypt and Syria, including some species of the highest interest which have not been found since the expedition of Hemprich and Ehrenberg. The most marked group is that of the *Hydradephaga*, where all the species appear to be peculiar. The great numbers of the *Tenebrionidæ* at once mark out the Desert character of the fauna, especially when contrasted with the almost utter absence of the *Phytophaga*; it is in the *Tenebrionidæ* that the greatest numbers of new species were found, some of them of extreme interest. Of the *Copridæ*, the most curious, and yet the commonest, to be seen at every encampment, is the "scarabæus" or *Ateuchus sacer*, generally recognized as the sacred beetle of Egyptian symbolism, in which a winged scarabæus, bearing a globe upon its head, was used to typify the sun. More species than one, however, appear to have been sculptured on their monuments. The habits of the scarabæus, though repulsive, are very curious. Seizing eagerly on some excrementitious matter, and detaching a piece of convenient size, it lays its eggs in the middle, and

afterwards works it into a shape sufficiently spherical to roll. It then with its hind feet rolls the pellet along, walking backwards on the fore feet in order to do so. The material of the pellet being soft, sand and gravel adhere to it in its advance, giving it solidity and weight. At length, some soft bank of clay or sand, or other convenient place, being reached, the scarabæus digs a tunnel or a pit with its fore feet, which are admirably designed for the purpose, then backs the pellet into it, and thus ends its task. Amongst water-beetles, varieties of *dyticus*, *gyrinus*, *colymbetes*, and others, were seen by Schubert.

The *Orthoptera* comprise edible locusts (*Acridium peregrinum*), grasshoppers, and the large black field-cricket (*Acheta campestris*), all of which are very common in the peninsula. Of *Neuroptera*, one kind only, the dragon-fly, has yet, we believe, been noticed.

Of *Hymenoptera*, ants, bees, and wasps are plentiful enough, but not peculiar. One large and formidable species of wasp is the *Vespa orientalis*, or paper-making hornet, described by Mr. Lord as banded with one wide stripe of orange on the abdomen, which, with wings of a bright yellowish-brown, gives it a showy appearance. These insects make paper-like cells for their eggs, attaching them in large clusters to the faces of the rocks under some overhanging ledge. A terror even to the natives, on account of their powerful sting, they must be infinitely more terrible, owing to their butcher-like, predatory habits, to the smaller insects on which they prey, pouncing on them, snipping off their wings, and flying off with the carcasses almost in a twinkling.

In the next order, *Lepidoptera*, moths are far commoner than butterflies. Of the latter, those found belong chiefly to the family of *Papilionidæ*, while the moths are mainly of the *Noctuina*, or night-flying group. In the lower valleys and plains the number of these creatures is prodigious. No sooner do the shades of night set in than moths of countless shapes and sizes make their appearance literally in swarms, filling the traveller's tent, dashing into the flames of the candles, which they often extinguish, or settling in large clusters on the tent-walls.

Of *Homoptera*, besides varieties of *coccus*, an interesting species, peculiar to Sinai—and to one part only, namely, the oasis of Feirán—is the *Cicada tamarisci*, collected by Mr. Lord. From dawn till evening, thousands of these insects, resting on the branches of the tamarisk trees, whence the specific name *tamarisci*, make the wady echo with that deafening, long-sustained, unmelodious din, which has been likened to the rattle of a stocking-machine, or the noise of a cutler's wheel. It is a handsome creature, its body striped with green and gold, its wings like the finest network of a very delicate green, and its eyes well set and magnificent. Mr. Lord was much struck with the perfect regularity of its habits, often remarking that at the moment when the sun disappeared behind the hills in the evening, every sound of the *cicada* ceased, while in the morning, directly the first sunbeams slanted into the valley, they would all begin to rattle again at the same minute, as though led by a conductor's bâton. Some species or other of the genus *cicada* is found in nearly all warm and temperate countries. By the Greeks

its song was even admired. According to an old legend, derived, probably, from the Athenian fashion of using the *cicada* as a head-piece for harps, the insect itself must have entertained little doubt of its musical powers ; in a competition, so runs the story, between Eunomos and Ariston, at the Pythian games, a string of Eunomos's *cithara* having become broken, a *cicada* perched upon the instrument, supplied the deficiency, and won the day for him.¹ Gnats, house-flies, and gad-flies are the chief species of the order *Diptera*, none of them being very abundant.

Arachnida.—Five kinds of scorpions, black, yellow, and banded, are found in the country, and, though not very common, may be met with anywhere, so that every good servant or dragoman takes care, when pitching his tents, to turn over each large stone. One variety only of spider, *Lycosa pilipedes*, is mentioned by Mr. Lord ; this he saw in great numbers, and of many sizes, hunting up and down the surfaces of the warm springs and runnels which issue on the beach at the foot of Jebel Hammám Far'ún, about sixty miles below Suez. There must, however, be other species in the country worthy of a naturalist's attention.

¹ See "British Insects," by Miss E. F. Staveley. L. Reeve & Co., 1871. Introduction, p. 9.

CHAPTER IV.

THE PEOPLE.

THE TOWARAH.—*Numbers, Origin, and Tribes.*—The Bedawín of Sinai—not including the females and younger boys—number about 4,000, divided into seven chief tribes, called collectively the Towarah (singular, Túrí), or Arabs of Tor, the ancient name of the peninsula. They are not the aboriginal inhabitants, but came over from Arabia at the time of the Mohammedan conquests. One tribe only, the Jibálíyeh, seems to be connected in descent with the former Aramæan inhabitants, who were probably the same as the Midianites of Macrízí, and the Saracens of early European history. Several of the names peculiar to this tribe are distinctly Aramæan; and the word Jibálíyeh, “mountaineers,” implies a close relationship with the soil. They undoubtedly, however, have also an admixture of European blood, and are on this account looked down upon by the others, whose descent is purely Arab. Many of them have a decidedly European cast of countenance. They are called also the *Sebáya ed Deir*, or “serfs of the Convent”; and are said to be partly descended from certain Egyptian and Wallachian prisoners whom Justinian placed in St. Catharine’s monastery

for its protection and service. It is thus probable that they are of mixed descent, from Justinian's serfs and the Aramæans, with a later admixture of Arabian immigrants. Through their Saracen origin, the Jibálíyeh possibly bear in their veins a faint trace of Amalekite blood; and to them must be referred the survival of any genuine traditions of the Exodus which may be still extant in the peninsula.

The six tribes besides the Jibálíyeh are the Sawá-liheh, Aulád Sa'íd, Garrásheh, 'Aleigát, Emzeineh, and Aulád Sháhín. Each principal tribe is subdivided into several small tribes or families, and has its own district and subdivisions into parishes. Stones inscribed with rude symbols are used to mark the tribal boundaries.

The 'Agyd, and Sheikh.—The tribes have no political or even social organization. There is one 'Agyd or commander-in-chief for the whole, whose office, a purely military one, is to take charge of all the Towarah forces in war. The only other office is the civil one of Sheikh, each chief tribe having three, whose rank is hereditary, descending from father to son. The Sheikh's duties are rather those of an agent or arbitrator than of a ruler, being chiefly the arrangement of money-dealings with government or travellers on behalf of the tribe, and the settlement of disputes among his own people. These disputes usually relate to debts and money matters.

Character and Habits.—Theft and fraud are almost unknown amongst the Towarah. In this, and in their freedom from lawlessness, they differ from most of the other inhabitants of the Desert, the dif-

ference being probably due to their isolation, to the inaccessible position of their territory, which ensures their freedom from hostile incursions, to the proximity of an Egyptian Government, and to frequent contact with European civilization at Suez and Cairo.

The popular idea that all Arabs are habitual robbers and murderers is an entire misconception as regards the Bedawín of Sinai. Though, in striking a bargain, a Túrí will not scruple to lie and over-reach you by every means in his power, you may be sure, when once the terms are agreed to, that his word is his bond. Similarly, whenever persons or property are committed to his guardianship, his honesty and faith are unimpeachable. A store of provision, clothes, or other property, left exposed and unguarded in any part of the Desert, is as safe, or nearly so, from the passer-by as if it were in its owner's charge. In short, crime generally is very rare in the peninsula, and the Bedawín have no criminal code properly so called. In cases of murder or homicide, the "vendetta," or blood-feud, is enforced, compelling the nearest male relative of the slain to take the first opportunity of killing the slayer.

Amongst these sons of Ishmael, the stern provision of the ancient law is strictly adhered to: "Whoso sheddeth man's blood, by man shall his blood be shed." But, owing to the terrible rigour of the vendetta, homicide is much rarer in the Desert than in civilized countries. In some tribes, the vendetta is enforced in cases of adultery, the injured husband being required to slay the seducer.

Theft is condoned by restitution. The atonement for other offences is usually made a matter of money.

Another mistake prevalent in Europe is the idea that all Bedawín are nomadic. They are generally described as roving constantly with their flocks and tents from place to place. But in reality few pastoral people wander less, or have a stronger love for their homes, situated though they are in a "waste howling wilderness"; and Professor Palmer has pointed out the curious fact that Arabic is almost the only language except our own in which the word "home" can be truly expressed. A gipsy life theirs certainly is, in so far as it is entirely a life in tents or the open air, but their wandering is confined to a regular change of quarters by each tribe every few months, as required by the season and for the pasturage of their flocks.

Dress, and Mode of Life.—Socially, the Bedawín contrast very favourably with the Arabs of towns and villages. They are healthier in body and mind, gentle, courteous, and, in spite of extreme poverty and privation, uniformly cheerful and unrepining. The women grind the corn, collect fuel, cook, and attend to other domestic work. The flocks are tended exclusively by unmarried girls, this occupation being considered beneath the dignity of males. All the women are closely veiled, the veil, *búrğa*, being drawn across the bridge of the nose; it must, however, be confessed that they have very little beauty to conceal. They tattoo their chins, and, like the Egyptians of the old empire, stain the finger-tips with "henna," and the eyelids and brows with "kohl."

For ornaments, they have bracelets and rings of brass, silver, leather, &c. ; also nose-rings, ear-rings, and necklaces of shells, beads, and buttons. The married ones wear the hair twisted into a curious plait or horn over the forehead ; the girls dress it in curls round the brow, surmounted by a head-dress called a "shebeikeh," generally made of red cloth, ornamented with beads or bits of mother-of-pearl. A loose blue cotton frock or chemise, and a blue mantle, called *melayeh*, over all, are their only garments. Their morality is irreproachable, amounting even to prudery. A woman of the Desert, for instance, will not even speak to a male friend when she meets him on the road, without first turning her back upon him. The men, though for the most part lazy and ill-clad, are hardy, sinewy, well-made, and often handsome. In manner they are generally grave and dignified, though in disputes, especially those about money, they are wont to become very violent and abusive. Their means of livelihood are scanty and inadequate, camels forming their chief support. While a sheikh who possesses three or four of these animals is a perfect Croesus in his way, a more destitute condition can hardly be imagined than that of an Arab who does not possess one. With the camels they convey travellers, pilgrims, and stores between Egypt and St. Catharine's monastery ; and also conduct a small trade between the peninsula and Egypt, consisting of charcoal, gum arabic, manna, disks of granite for millstones, and ibex-horns. With the money thus earned they buy corn and the Bedawi's two great luxuries, tobacco and coffee. A few of them

are ibex-hunters ; others cultivate a little fruit and tobacco in the oases. The cultivation of date-palms, and the preparation of charcoal¹ and other articles of commerce, also give them a certain amount of employment. For dress, they have a long-sleeved white shirt, called *thaub*, fastened round the waist with a *síyar* (leathern belt), and over it the 'abba, or long robe of goats' or camels' hair. Sandals of fish or "dugong" skin, and as head-dress a *tarbúsh* (skull-cap) and white turban, or sometimes the gaily striped *kufiyeh* from the bazaars of Egypt, complete the costume. Tobacco and small valuables are carried tied up in the long pointed sleeves of the *thaub*. Only the hunters and richer men carry firearms. A few of the latter, chiefly among the Garrásheh, possess negro slaves for menial work, treating them, however, kindly.

On account of the extreme scantiness of the Desert pasture, which limits the number of the flocks that can be supported in one neighbourhood for any length of time, the Arab encampments are usually small, consisting of groups of a few families each, which have their regular summer and winter resorts. From ten to fifteen is the average number of tents in a camp. These tents are made from goats'-hair cloth, woven by the women, and stretched over forked poles, which are secured by ropes made from the fibre of the date-palm leaf. The larger tents have generally two compartments inside, one for the men, the other for the women and children.

¹ A quantity of charcoal is also sent yearly to Suez as a tribute to the Egyptian Government.

Food.—Food, as well as pasture, is very scanty. Next to corn from Egypt, dates are the staple, those of Feirán being especially fine and plentiful. The bread and dates are eked out now and then by an ibex, or a sheep or kid: the last two, however, are seldom killed, except for sacrifice. Coffee is the chief beverage, and the flocks and herds yield during part of the year a small supply of milk.

Health.—Ill-clad and ill-fed, the Bedawín, especially the very young and very old, are subject to several complaints, the most common being neuralgia, rheumatism, ague, and various forms of pulmonary disease. In spite, however, of poverty and suffering, a Túrí Arab is happy and contented, and his wants are very few; for, as his own simple proverb declares, “A Maghrabí (Morocco) sword, a pretty wife, and a handsome dromedary: whoso possesses these three things, his heart is glad.”

Saints' Festivals, and Sacrifices.—Rites of sacrifice are still practised by the Bedawín at the “welis,” or tombs of their saints, as well as at other spots of special sanctity. The two chief patron saints of the peninsula are Moses and Nebí Sáleh, and the annual festival at the tomb of the latter in Wády es Sheikh, the “valley of the Sheikh” (Sáleh), is the great event of the year. Who he was, none can tell. The Arabs, though they reverence his memory even more than that of Moses himself, know nothing whatever about him. Professor Palmer is inclined to think, after careful research, that Nebí Sáleh and Moses must be identical. Besides these two chief saints, every district in the peninsula has its own particular saint, in whom the

Bedawin have implicit faith, appealing to him on every occasion. The principal sacrifices are attended with great festivities, and usually take place in spring, when food is most plentiful. At the Nebí Sáleh festival, after dromedary races and songs, the sheep to be sacrificed are brought to the small domed building which covers the cenotaph, when their ears are cut, and the blood sprinkled on stones at the door. The sheep are now killed, cooked, and eaten, coffee and pipes following the meal. Then each Arab takes a lamp to the tomb, where he lights it and burns incense; and on departing he takes up a little of the dust of the tomb, to sprinkle it, by way of a blessing, on the heads of himself, his sheep, and his camels. The festival ends in the evening with a *Mesámereh*, a peculiarly Arabian night's entertainment. Songs and chants by the men, accompanied by a general clapping of hands, are followed by the appearance of dancing-girls, closely veiled, who first sing in answer to the men, and then go through a not ungraceful, but somewhat ludicrous, attempt at dancing. In their efforts they are encouraged by the men, in the same terms with which they are wont to urge their camels. Love-songs and verses in honour of any distinguished guest are commonly improvised on these occasions.

Next in importance to the Nebí Sáleh festival is that of Ed Dhahíyeh, at which the Bedawín sacrifice yearly to Moses on the top of Jebel Músa, observing much the same ceremonies. There is no tomb, however, in this case, as the Towarah, like the Christians of the Middle Ages, believe that Moses's burial-place was miraculously hidden. The sacrifices are made

at the little mosque of Moses on the highest point of the mountain. Offerings are also made to Moses at a place about ten miles from Jebel Músa, called the Mag'ad en Nebí Músa, or "Prophet Moses's Seat." It is a rock not unlike an arm-chair, on a cliff-side in the defile by which Wády es Sheikh issues from the central mountain cluster. The rock is supposed to have derived its present shape from the impress of the prophet's form, and the pass has taken its name, El Watiyeh, from the Arab custom of carrying up the votive offerings in a bowl called a *watíyeh*. In fruitful years, a young camel is sacrificed to Aaron at the mound called Hárún, near St. Catharine's monastery. The animal, decked with gay rags, is led thrice round the monastery, and then killed and eaten. Jebel Serbál is not a place of sacrifice, and has no special sanctity. Near it, however, is a mountain called El Moneijáh, "the conference," with a rude stone enclosure on its summit, which is a highly-venerated place of sacrifice to Moses. Here votive offerings are invariably made. At the *Mesámereh* the assembly sing in chorus, "O place of Moses's conference, we seek thy privilege! Save the good folk, and we will visit thee every year."

Religion.—Like everything else about him, the Bedawí's religion is extremely simple. Though professedly a Mohammedan, he knows little more of that religion than the name. He has none of the ostentatious forms of Mohammedan worship, and he seldom prays apart or in any special posture. His religious instincts, however, are very strongly developed, and a sense of the omnipotence and omnipresence of

the Deity seems to be with him always. To this latter feeling, and not, as many have supposed, to habits of profanity, may be referred his constant use of such expressions as *Inshallah* (If God please), *Khaf Allah* (Fear God), and the like. Everything wonderful or uncommon, everything in nature that he cannot understand, is at once set down as being the direct handiwork of God, or of His great prophet Moses. Professor Palmer tells a characteristic story of his Arab guide, Sálem. The Professor, on approaching a rock which seemed from a distance to have characters engraved on it, found that they were only some curious weather-marks. "Ah," said Sálem, "that is God's writing, not a Bedawí's." Ask a Bedawí whether he thinks it is going to rain, and you will find that he has never studied the signs of the sky in the slightest degree, and believes that rain and sunshine are parts of God's inscrutable ways, on which it would be hopeless and impertinent to speculate. He will tell you, "I cannot say; weather is in the hands of God; if He wishes, it will rain; if not, it will be fine." On one occasion, in a winter gale, a sudden blast blew down a tent in which the writer and others were at work. Sálem, who was smoking at the camp-fire, never offered to move, or to help those who were struggling with the wreck: he simply puffed a little faster at his tchi-bouque, and muttered, with the superstition of a true Bedawí, "This comes from God." Believing thus firmly in an ever-present God, it is not surprising that the Towarah, though they have no distinct religious code, indulge frequently in prayers and religious for-

mulas. They think that, when a man rises from sleep in the morning, the Spirit of God sits on his right shoulder, and the Devil on his left. A Túrí Arab, therefore, on waking, always repeats the exorcising formula, "I seek refuge with God the great from Satan accursed with pelting,"¹ and is satisfied that without this precaution the Good Spirit would take flight, and our Arch Enemy stay with him throughout the day. At sunset this is repeated. Before sleep a Bedawí says, "I lay down my head to rest, and the Lord is my security against remote evil and present harm." The sunrise prayer runs thus: "I seek refuge with the great God from Satan accursed with pelting. Deliver me from evil; provide for me and for my brethren, the faithful. O Lord, be gracious unto us, for a people that prospers is better than a people that strives. O Lord, uncover not our inmost faults; protect our children and our weaker friends."² Oh, thou who even providest for the blind hyæna, provide for me." The sunset prayer is in the same style.

Not less simple and quaint are their ideas upon the creation. "In the beginning, when God created man, He did not turn him adrift, but created also for his use the camel, the ass, the sheep, the goat, and the ibex of the mountains. He taught him also to sow and reap, and milk camels, and gave him the axe wherewith to fell trees. And the Lord made small

¹ "Accursed with pelting," a phrase derived from the notion prevalent amongst the Bedawín that the angels are wont to pelt the devils with fire-brands, to prevent them from eaves-dropping at the gates of heaven. The brands so used become, say they, the shooting stars.

² Women.

birds when He was wroth with man, that they should eat up the seed which he had sown, and spoil the young crops and fruit, that man might be humbled from his pride. Then God created the serpent. He made it deaf one month, and blind one month alternately, that it should not harm mankind. But, when man forgets his Maker, then the serpent stings him. Times and seasons, too, did God create for the service of man. When He wills it, man doth prosper; but when He wills, He makes him poor indeed."

Of the resurrection they say: "At the end of the world there will be a general resurrection, and on that day the world will melt. Then those who have done good and those who have done evil shall rise together from their tombs, the good with their hands above their heads, the wicked with their hands close down by their sides. Then there shall come a dreadful flight of vultures to assail them; and the good, having their hands free, shall repel their attacks, and receive no harm; but the wicked will remain helpless till their eyes are pecked out."

Marriage.—Arab life in the Desert, especially at the national festivals, affords so much freedom of intercourse between the sexes, as compared with harem life in towns, that there is more scope for the passion of love, and for the arrangement of marriages of affection. The custom amongst the Towarah, nevertheless, is to give the girl little or no choice in the matter, which is merely one of bargain between the suitor and her father. The dowry, or literally "purchase-money," to be paid to the father for his daughter, is the subject of much noisy discussion. As soon as

this is settled, the *khatib*, or "public notary," of the tribe, is called in, and a formal ceremony of betrothal is gone through between the contracting parties, the girl meanwhile being in total ignorance of what is going on. The notary shortly informs her of her fate by throwing the suitor's 'abba round her, exclaiming, "The name of God be with thee; none shall take thee but * * *" (naming her betrothed). Upon this she shows, or at least feigns, alarm, but is taken by the women of the tribe to a separate tent close to her home, where, having been sprinkled with a sheep's blood, she remains in seclusion for the three days' grace allowed by custom; at the end of which, after bathing in a perennial spring, she goes to the marriage-feast at her husband's home. It sometimes happens, however, from the causes just now indicated, that a girl thus sold to one man has fixed her affections on another, and that, on learning her fate, she flies from home, and throws herself on the protection of friends, refusing to go back until granted her own way. Sometimes, indeed, attachments of this kind are so strong, that the girl, when denied the man of her choice, will take her own life rather than prove faithless to her lover: the folk-lore of the Desert contains romantic stories founded on such instances of devotion.

Birth.—A child, as soon as born, is first laid by its mother in a hole made in the ground, called a *girbús*. It is then swathed in cloth or calico, bandaged from the knees to the loins, and put into a bag called a *zangúd*. The head is now pressed and tightly bandaged, that it may take the desired shape;

the eyes and eyebrows are ornamented with *kohl*, and the arms and legs with beads, bracelets, and copper coins. On the seventh day, the mother comes out, and if the child be a boy, a feast is given; but "girls," say the Bedawín, "are good for nothing." Sometimes, however, the mother's seclusion lasts for forty days. Circumcision does not take place till the child is seven or eight years old. A number are operated on at once, and the ceremony is attended with feasting, sacrifices, and public sports.

Death.—The dead are buried in the ground almost immediately after death, time only being allowed to dig the grave, and wash and shroud the corpse, while the women, with uncovered heads, keep up a loud and impassioned wailing. On the body being placed in the grave, the mourners beat the ground with sticks, recite the Fátihah,¹ and cry, "Oh, Thou most compassionate one! Have mercy upon us, oh, gracious God!" Then, tapping at the head of the grave, they address the deceased thus, "When the twain green angels² shall question and examine thee, say, 'The feaster makes merry, the wolf prowls, and man's lot is still the same. But I have done with these things.' The *sidr* tree is thy aunt, and the palm tree is thy mother." Each one then, throwing earth into the grave, cries, "God have mercy on thee!" After the funeral comes a feast, and four months later another feast in memory of the dead. Spots conveniently

¹ The opening chapter of the Corán.

² Nakír and Munkir, who are believed by Mohammedans to examine the dead in their tombs, allowing the good to rest, but torturing the wicked.

near to the established camping-grounds are chosen as burial-places, usually on high ground at the side of a wády, or on some island-like eminence in the middle, but always well above the reach of *seils*. Little plots of rude, nameless headstones and footstones, they are hardly distinguishable from the rocky Desert around them, unless, as is sometimes the case, they are marked by a *weli* covering a saint's tomb. Large stones and boughs of mimosa laid over the newly-made graves effectually protect them from being rifled by wild beasts.

Preservation of Ancient Habits.—No one can observe at all closely the habits and customs of the modern Bedawín without recognising in how many particulars he is reminded of the life of the Israelites during their stay in the Wilderness. The explanation of this, doubtless, lies in the fact that, though nearly all other parts of the world have undergone numberless changes, the Desert has escaped innovation. Thus, while the mountains and valleys, in their immutable grandeur, without doubt wear essentially the same aspect at this moment as they did three thousand years ago, so also as regards the inhabitants of the Desert, it is certain that in manners and mode of life, even in dress and speech, they are very much what they were in the days of the patriarchs. The tent life of the modern Bedawín, accompanied always by their flocks and herds, must closely resemble that of Israel of old during their sojourn in this wilderness. At every Arab camp the women may be seen spinning goats' hair and weaving it with rude looms into the material for their tents, reminding us of how in ages past, amongst these very mountains, Israelitish "women

whose hearts stirred them up in wisdom spun goats' hair " as their " willing offering unto the Lord " for the work of the Tabernacle of the Congregation (Ex. xxxv. 26, 29). The primitive millstones with which they grind their corn are, doubtless, of the same pattern as those with which the children of Israel used to grind their manna ; and in the material of the sandals now worn by the men we probably recognise the so-called " badger-skin " used in the construction of the tent of the Tabernacle. The rites of sacrifice of sheep and goats, sprinkling of blood, and circumcision, the forty days' seclusion of women after childbirth, the forbidding of coney's flesh as food, the system of marriage-contract and dowry, the law of restitution in cases of theft, the commutation of minor offences by money, the punishment of death for adultery, and the lawful killing of a slayer by the " revenger of blood," are identical in their main points with the laws and customs in these matters laid down by Moses for Israel's guidance. The ceremony which took place when of old " Moses went out to meet his father-in-law, and did obeisance, and kissed him ; and they asked each other of their welfare ; and they came into the tent " (Ex. xviii. 7), is still rehearsed daily in the Desert at every meeting of friendly Arabs of rank—when, to the respectful obeisance, and the touch to head, heart, and lips, follow the long embrace, the kiss on either cheek, the clasping of hands, and the oft-repeated inquiry as to each other's health, " Are you well ? " with the reply, " Thank God, well." The rude native burial-grounds are doubtless very like those which Israel must have left behind them in

many parts of the Desert ; and the modern constitution of tribes and sheikhs closely resembles that organization which Moses, by Jethro's advice, introduced amongst his people (Ex. xviii.).

Folk-lore and Traditions.—The folk-lore of the Sinai Desert is very interesting and copious, some story or other being attached to every spot which is in any way remarkable. Professor Palmer made a large and complete collection of these legends and traditions, in the very words of the Arabs as they told them over their camp-fires. The old guide Sálem, already mentioned, proved a valuable ally in this task, possessing, as he did, a truly wonderful knowledge both of the topography and folk-lore of the peninsula. By the Bedawín he was looked upon as a perfect Solon, who “knew the whole history of the world from beginning to end.”

A large number of the legends relate to deeds of prowess, duels and battles, the cunning of animals, apparitions of fairies, and so forth. Some of them throw interesting light on the past condition of the country, as, for example, those which contain mention of horses, and show that horses once lived in the peninsula.

But by far the most interesting, and, probably, most ancient legends are those which relate to Moses and the Exodus. Everywhere in the peninsula there is what has been well called a “general atmosphere” of Mosaic tradition ; while the name of Moses has been affixed to various natural objects, and is borne by about every fourth Arab in the country. It has been difficult to say how much importance might be fairly attached to this. Professor Palmer, however,

who has gone into the subject very much more closely than any one else, is of opinion that, though Arab tradition has been influenced, and in some cases supplanted, by monkish legend, there still exist undoubted traces of an independent oral tradition of the chief events of the Exodus. A connected account cannot, of course, be expected. Notwithstanding the proverbial faithfulness of oral tradition in the East, it would be incredible that stories passed on by word of mouth from generation to generation for three thousand years, amongst the superstitious and untutored inhabitants of the Desert, should be free from manifest discrepancies. We find accordingly that, instead of following the children of Israel by any single or consistent route through the country, every spot possessing peculiar features, no matter where situated, is associated in the minds and traditions of the Bedawín with Moses, whose powers must in their estimation have been almost boundless. The whole country, in fact, absolutely teems with legends of Moses. And hence, while some of the traditions fit in well enough with the Biblical account, both in matter and locality, others, as might be expected, are palpably ridiculous, and even childish, proving no more than that a vague notion of the grand mysterious figure of the Hebrew Lawgiver exists in the Arab mind.

Amongst the many wonders ascribed to Moses, one is that he had the power of cleaving asunder huge rocks and boulders with his sword, or merely at his command. The Hajar el Laghweh, or "speaking stone," in Wády Berráh, about twenty-two miles from

Jebel Músa—a large rock, with a piece near it which looks as if it might once have been part of the greater mass—is said to have been thus cleft by Moses: the rock, says the legend, stopped his way, and the prophet, though urged by his companion to cut it asunder, hesitated, doubting the power of his weapon, until a voice from the stone itself ordered him to strike, which he did, with signal success. In Wády el Lejá, on the west side of Jebel Músa, is the Hajar el Magarín, or “rock of the united ones,” a cleft rock similarly said to have been miraculously divided because it stood in Moses’s way when he was coming down from Mount Sinai. It seems possible that this legend of a rock having been parted asunder by Moses at the foot of Sinai contains some faint reminiscence of the breaking of the tables of the Law “beneath the mount.”

Another curious superstition, not, however, confined to the Bedawín, is that which assigns to saints and holy personages the power of leaving their footprints or the impress of their forms on the hardest rocks, a belief which may possibly have had its origin in some vague conception of geological phenomena. “Moses’s seats,” accordingly, are not uncommon in the peninsula. One of these, the Mag’ad en Nebí Músa, has been already described (p. 66). There is another in Wády ed Deir, close to St. Catharine’s monastery; another at Abu Zenímeh, on the west coast, from which Moses is said to have watched the drowning of Pharaoh’s hosts; and another on the top of Jebel Músa. The last-named is a hollow in the rock on which stands the chapel of Moses; it bears marks roughly suggestive of the impression of a human head and

shoulders, which were made, say the Bedawín, when Moses shrank back into the rock while the glory of the Lord passed by.

Wells or springs of Moses are found at two points in the peninsula. Every voyager on the Red Sea has had pointed out to him the green oasis which shelters the 'Ayún Músa, or "springs of Moses," on the shore plain about eight miles below Suez, and which, according to native tradition, marks the site of the Red Sea passage. The other instance is the M'ayan Músa, on the side of Jebel Músa itself, a cool, limpid spring welling up in a grotto of rock overgrown with maiden-hair fern, at which, say the Arabs, Moses used to water the flocks of Jethro. The spring is approached by the Sikket Syedná Músa, or "path of our Lord Moses," which leads past it to the summit. There is a curious belief amongst the Bedawín—possibly containing a distorted reminiscence of the phenomena which attended the Lawgiving—that, when Moses went up by this path to speak with God, "the world became subject to his command, mountains were rent asunder, and hard rocks melted like wax before him."

Natural features so uncommon as hot-springs, of which there are two groups in the peninsula, are, of course, associated by tradition with the Exodus. One of these groups issues from the foot of Jebel Mogattem, about a mile and a half from Tor, and is called "Our Lord Moses's hot bath." The other issues on the shore about sixty miles below Suez, at the foot of a fine cliff of crystalline limestone 1,570 feet high, the warm waters running a short way across the beach into the sea. These springs are connected by a Bedawí legend

with the destruction of Pharaoh and his host, the heat and sulphurous smell of the waters being ascribed to the troubled spirit of Pharaoh, who lies buried beneath. They are called the Hammám Farún, or "Pharaoh's hot-bath," and the waters, being supposed to possess immense virtues, are much resorted to by the Arabs for medicinal purposes. Though there is a manifest inconsistency in fixing on this as the scene of Pharaoh's death, and on Ayún Músa, fifty miles higher up the coast, as the scene of the crossing, the childish minds of the Bedawín, incapable of connected thought, see nothing illogical or absurd in thus mixing up two widely separated places with parts of one event. Pressed on this point by Professor Palmer, an intelligent Bedawí replied, with some indignation, "What can distance matter? Is not the remote near to God Most High?" Perhaps no better example than this could be given to show the vagueness and worthlessness of the childish tales which are a Bedawí's notion of history.

One of the most plausible and interesting of the legends relating to the Exodus is that connected with a spot in Wády Feirán, called the Hesy el Khattátín, or "hidden spring of the writers," which is identified by the Bedawín as the place where Moses smote a rock, to get water for his thirsting people. Moses, it should be here observed, is often spoken of by the Bedawín as the "writer" of the Book of the Law. The ancient custom, dating, we believe, from time immemorial, by which in places of legendary interest each passer-by deposited a small stone to mark his remembrance of the spot and its tradition, is still kept up by the

Bedawín when passing the Hesy el Khattátín. Every available stone or rock in its neighbourhood is covered with heaps of small pebbles thus deposited. The Arabs say that "the Israelites, after quenching their thirst at the miraculous stream, sat down and amused themselves by pitching pebbles on to the surrounding rocks." Hence the modern practice, which is kept up in memory of the occurrence, and specially as a propitiation of Moses's help in behalf of sick friends or relatives. This curious tradition, brought to light for the first time by Professor Palmer, has at least the merit that the spot to which it is attached tallies topographically with the most probable site of the miracle at Massah (Ex. xvii. 7).

Another native legend bearing a semblance of truth is that which is attached to some old stone remains at a spot called Erweis el Ebeirig, about thirty miles north-east of Jebel Músa, and fifteen miles short of 'Ain Hudherah, identified as the ancient Hazeroth. The name, which only means "high ground, white, with black patches," suggests no reminiscence of the Exodus. But in the legend attached to the stone remains there are some indications which tend rather strongly to connect the spot with the journeyings of the Israelites. "They are the remains," say the Arabs, "of a large pilgrim or Hajj caravan, which, in remote ages, stopped here on the way to Hazeroth, and was afterwards lost in the Tíh, and never again heard of." In the original Arabic of this legend there are two words which lead to the supposition that the lost caravan to which it refers, was that of the children of Israel. First, the caravan is said "*táhu*," "to have

wandered out of the way," a verb from which the Bádiet et Tíh, or "wilderness of the wandering," derives its name. Secondly, it is spoken of as a "Hajj" caravan, a word which, though now used only to describe the annual Mohammedan pilgrimage to Mecca, derives its origin from the Hebrew *hag*, which means a "festival," and which is the identical word used in Exodus x. 9, to express the feast for the holding of which Moses and Aaron so often sought Pharaoh's permission to take their people three days' journey into the wilderness. The length of time which has elapsed since the Exodus furnishes no argument against the probability of this conclusion, as there are many stone remains in the country certainly older than those at Erweis el Ebeirig, yet in a better state of preservation. It will be shown further on that the spot may be identified, with a strong degree of probability, as the station of Kibroth-Hattaavah.

The monastery of St. Catharine is an object of great interest to the Bedawín, who regard it as a relic of the remotest antiquity, and have many curious superstitions about it. As might be expected, they ascribe its origin to Moses and the Israelites; though with queer inconsistency they believe that St. Catharine finished it. At the entrance to the Nagb Hawa, or "Pass of the Wind," about ten miles from Jebel Músa, there are some ancient stone circles to which they have given the name Matabb ed Deir el gadím, the "site of the ancient convent," and the story runs that, on arriving at this spot with his people, Moses began to build a convent, in order to commemorate their deliverance from the Egyptians, but that by the

next morning the masons' tools had disappeared, having been miraculously moved in the night to the site of the present building, which was then begun in obedience to the omen. The "Book of Moses," graven on stone at the bidding of God Most High, is believed by the Bedawín to be in the monks' possession, built into the walls of the little chapel of the Burning Bush : when the monks want rain, wind, or even locusts, they have only to open the window of the chapel, and repeat the first chapter of the Corán, in order to have their request granted. Immense treasure is supposed to exist in the convent cellars, so well secured that it can only be reached by the simultaneous opening of three separate locks, the keys of which are kept by the bishop, the superior, and the bursar. The whole building, indeed, is thought to be under the special protection of Heaven and the Pasha, so that no evil designs against it could ever prosper.

Amongst other reminiscences of the Exodus may be mentioned the traces of Scripture names extant in the modern nomenclature, which were specified in the first chapter. At the foot of Jebel Músa is a rock with a curiously shaped hole in it, which the Arabs call the *Nugr el Baggar*, or "Cow's Hole," averring that it was made by Moses, who thrust his staff into the rock in order to get water for his cow to drink. This story, and the close proximity of the hill Hárún (Aaron's mound), at once suggest a distorted version of the story of the golden calf. Lastly, the construction of the old stone houses and tombs called *nawámís*, which are found all over the country, is attributed by the Bedawín to the children of Israel, who, they

say, erected them as a protection from a plague of mosquitoes (*nawámís*) which was inflicted on them for rebelling against God and Moſes. The word, however, is really the old Arabic *námís*, plural *nawámís*, “a shelter for huntsmen,” though the Bedawín only know its modern meaning, “mosquitoes.”

BEDAWÍN OF THE TÍH.—Of the Arab tribes who inhabit the great Desert of the Tíh, the largest and most powerful is that of the Teyáhah, occupying its central part. The Terabín, also a numerous tribe, dwell on the western frontier, the ‘Azázimeh in the north-west and north-east, and the Haiwátt in the east and south-east. To these tribes, as to the Towarah, camels and flocks are the chief support. The conveyance across the Tíh of the great annual Hajj or Pilgrim caravan, on its way from Egypt to Mecca, and of such travellers as, avoiding Sinai, choose the direct Desert route to Palestine, affords some considerable means of subsistence. Those who do not share in this traffic live almost wholly on the milk of their camels and flocks, or on the proceeds of the sale of them. In the plains, agriculture is almost unknown, and it is practised but very little in the mountains. Hence, such grain as is required and nearly all the necessities of life have to be brought from Egypt or the border villages of Palestine. Cattle-raids upon distant tribes are frequently indulged in, the Teyáhah being conspicuously fond of these excursions. Sharp encounters often take place, sometimes accompanied by loss of life. The messenger who came into the tent of Job, and said,

“The Chaldeans made out three bands, and fell upon the camels, and have carried them away, yea, and slain the servants with the edge of the sword,” described precisely some such scene as is often witnessed at the present day, when a marauding tribe surprises a large herd of camels sent out to distant pastures under a scanty guard. The taking of life, however, is not often indulged in, so great is the fear felt of the dreadful curse of the vendetta. Lazy, unsettled, unprincipled, and having, as a rule, a profound contempt for agriculture and all work save that of rapine, the Bedawín are a curse to the area they inhabit; and, so long as they are able to derive support from their flocks and the plunder of their neighbours, they will continue, as now, to neglect the soil, and to drive away, or reduce to beggary, those who would turn it to account. Such have the 'Azázimeh done in the once fertile and populous hill-plateau which occupies the north-eastern part of the Tih—the Jebel el Magráh, identical with the Negeb or “South Country” of Scripture—now a deserted and barren wilderness, but full of the most interesting traces of former inhabitants and cultivation. “Wherever,” writes Professor Palmer, “the Bedawí goes, he brings with him ruin, violence, and neglect.” He is the typical son of Ishmael “whose hand is against every man.” “To call him a son of the Desert is a misnomer; half the Desert owes its existence to him, and many a fertile plain, from which he has driven its useful and industrious inhabitants, becomes in his hands, like the ‘South Country,’ a parched and barren wilderness.”

CHAPTER V.

ANCIENT MONUMENTS AND REMAINS; AND EARLY HISTORY.

EGYPTIAN REMAINS. — Amongst the glimpses into the past history of Sinai which we derive from its ancient monuments, inscriptions, and other remains, none surpass in completeness and intrinsic interest those sculptured records of Egyptian occupation spread over a period of some 2,000 years, to which reference was made in the first chapter. The possession of the mining district of the peninsula was, indeed, one of the chief objects of the early Egyptian kings, whose conquests extended eastward from Egypt into Arabia. The region first became subject to Egyptian rule as far back as the beginning of the fourth Memphite dynasty of the old Empire, before the Great Pyramid of Gízeh was built, and probably some 3,200¹ years before the beginning of the Christian era. It seems to have been frequently abandoned and re-occupied for mining purposes during a period of about 1,900 years, or from the beginning of the fourth until the early part of the twentieth dynasty; and was not abandoned finally until

¹ As nearly as the uncertainties of the Egyptian chronologies enable us to judge.

the reign of Rameses IX., that is, about the year B.C. 1,200, or some 120 years after the date which Egyptologists usually assign to the Exodus. For about the first 900 years of this period, mining operations were confined to a small district now known by the Arabic name Maghárah, or "cave," a few miles inland from the plain of El Markhá, on the west coast. But early in the twelfth dynasty, about which time Maghárah began to show signs of exhaustion, a new field of mining was discovered ten or twelve miles further inland, in the sandstone hills bordering on the Debbet er Ramleh. This district, now generally known as Sarábít el Khádim, became thenceforward the chief seat of mining, and Maghárah was totally abandoned at the end of the twelfth dynasty.

The successive occupants of these ancient mines, carrying thither that indefatigable taste for the construction of memorials for which the early Egyptians were so famous, left behind them many monuments, of great antiquity and interest. Owing partly to a careful choice of sites, and partly to the remarkable dryness of the desert air and the absence of the usual elements of destruction, a large number of these monuments are in excellent preservation. Latterly they have suffered a good deal—more, perhaps, than in many previous ages—from mutilation by modern miners, from shameful disfigurements by the names of travellers, and from a barbarous practice which has sprung up amongst the Europeans at Suez of offering rewards to the Arabs for all inscribed stones from the peninsula. In some of them, nevertheless, the refined workmanship, still undisfigured by time or the hand

of man, is such as to excite the wonder and admiration of every visitor.

The chief object of the miners' search was the *mafka*, a word which, according to Dr. Birch (on whose admirable papers in the official account of the Sinai Survey this section is mainly founded), is now generally recognized by Egyptologists as designating the turquoise. In some inscriptions, copper or brass appears to be mentioned as the produce of the mines; *scoriæ* and large heaps of slag, as from melting furnaces of copper and iron, have also been found in many parts of the district, chiefly towards the north, showing that those ores were extensively treated by the Egyptians.¹ The turquoise, however, was apparently the material chiefly sought, and the whole region was named after it the Mafka or Turquoise Land.² It is by no means clear to what use the turquoises were applied. Few objects of turquoise are known to exist in any collections of ancient Egyptian jewelry. It is well known, however, that Sinaitic turquoises have a character for losing their colour, and cannot stand the test of great age. Dr. Birch is of opinion that thin slices of turquoise may have been used in the *cloisonnée* jewelry of the ancient Egyptians, along with the more common lapis-lazuli, green felspar, and jasper, and the coloured pastes or glasses

¹ Traces of copper-smelting have also been discovered in several other parts of the peninsula.

² Dr. Lepsius, however, who was the first to make a scientific examination of the mines, in 1845, considers the *mafka* to mean copper; and Dr. Ebers agrees with him. Dr. Brugsch-Bey follows Birch's view.

which were so much employed. The purposes to which the copper and iron were applied have also formed matter for various conjectures, one of the most probable being that of Mr. Holland, that the copper ore may have been used for producing the beautiful blue glazes of the Egyptian ware, and that the manganese ore and brown hæmatite provided colouring matter for the temples and tombs of Egypt. Bronze and copper objects have, however, according to Dr. Ebers, been found in great numbers in the extinct town of Memphis. Some of the glazed vessels of the temple at Sarábít el Khádím were made, apparently on the spot, expressly for the service of the station. It has been pointed out by Mr. Bauerman, as a curious proof of the great antiquity of the mines, that the poverty of the copper ore is such that it could not possibly be worked now unless the value of copper were to be raised to several times that of gold.

In the period during which the mines of Sinai were originally worked, the peninsula appears to have been inhabited by some of the Asiatic shepherd or nomad tribes known to the Egyptians as the Mnat or Shepherds, sometimes called the people of An, the same class which is spoken of in the Bible as an abomination to the Egyptians. They are represented in the Magháraḥ monuments, like the other Semitic races known to the Egyptians, as having long hair and long copious beards, with aquiline noses and receding foreheads; they appear clad in a short tunic round the loins, like that of the Egyptian monarchs. Though not shown as armed, they no doubt had the usual weapons of the period, as military force was often

needed for their subjugation. The Turquoise Land and its produce were presided over by the Egyptian Venus, the goddess Athor, who is constantly mentioned in the inscriptions, together with the gods Thoth and Sept. To her is dedicated the temple at Sarábít el Khádim. Sept seems to have presided specially over Maghárah. The worship of Thoth is due to a tradition that the Maghárah mines owed their discovery to him. A tablet, dated in the fourth year of Tancheres, surnamed Assa, fifth monarch of the fifth Elephantine dynasty, ascribes the discovery of the *mafka* to information given on a tablet inscribed by some god—supposed to be Thoth, to whom such discoveries were usually attributed in ancient Egypt. It is not certain, however, whether this referred to the original discovery of the vein, or to its later recovery, perhaps in the days of Assa.

Maghárah.—The Maghárah mines, as suggested by their name, consist for the most part of low, spacious caves and galleries in the sandstone cliffs which form the right or west bank of a small valley or ravine called Wády Genaiyeh, close to its junction with the main valley, Wády Igne. The roofs and walls of the caves are covered with the ancient chisel marks, and in some places blackened patches on the roof, caused by the smoke of the miners' lamps, are still visible. Natural pillars have been left here and there, to support the roofs. The cliffs rise in abrupt ledges to a height of about 300 feet above the wády, and the tablets and inscriptions are exquisitely carved on the faces of the rocks on this side of the valley, usually in spots carefully chosen so as to

be sheltered from the driving sand, which in the Desert is almost the sole natural agent of destruction. On the opposite cliffs are the remains of the ancient settlement, comprising the dwellings of the miners, who probably were prisoners of war, and the barracks of their military guards. Flint and stone implements, such as arrow and spear-heads, flint chisels and knives, and rude hammer-heads of greenstone, are found amongst these ruins. No traces of metal tools have been discovered, though the excavations can hardly have been carried on without them; the flint instruments were probably used chiefly for sculpture. There are also the remains of what seems to have been a causeway, leading across the valley and up its opposite slope, and designed to give easy access from the settlement to the mining caves.

Various learned travellers, including Laborde, Lepsius, and Lottin de Laval, have from time to time figured and published many of the monuments at Maghârah; and copies, rubbings and impressions of others have been taken by the late Major Macdonald, Mr. Holland, and Professor Palmer; as well as some good photographs by the Sinai Expedition. One new tablet, of no special interest, was found by the latter party, on the settlement side of the wâdy, cut, contrary to custom, on a horizontal instead of a vertical surface; it was probably unofficial, and done by the artist as a pastime only. Some extensive workings, with tablets, apparently of very great age, were also discovered by them in a small valley called Wâdy Umm Themâim, about a mile from Wâdy Igne.

The monuments, of which there are twenty-four,

thirteen being in shallow relief, and the rest in *intaglio*, contain the effigies, cartouches, and titles of the monarchs in whose reigns the mines were worked; also frequent references to the deities who were worshipped there, representations of priests, soldiers, and captive miners, and details of the expeditions which from time to time carried on the operations. The immediate district seems to have been called either the Abt, "east," or Beba, "cave,"—it is not clear which, as the word is not well preserved in the inscriptions. The occurrence of the name Bab'a in the neighbourhood would seem, however, to favour the latter designation. Conquests and troops are so often mentioned in the inscriptions, that it is evident that the Egyptians, at each successive occupation of the district, had to fight for its possession with the native tribes, and that armed forces were needed to garrison the mines.

The discovery of the mineral wealth at Maghárah is ascribed to Senefru, the Greek Soris, first monarch of the fourth Memphite dynasty, and predecessor of Cheops the builder of the Great Pyramid of Gízeh. He first invaded and conquered the district, and opened the mines. It was in this dynasty that the monumental contemporary records of Egypt began. On a tablet at the mouth of one of the caves, Senefru is represented as conquering one of the Mnat-nu-sat, or shepherds of the East, *i.e.*, of the neighbouring region, the eastern land of Senefru. This tablet, engraved probably more than 5,000 years ago, is the oldest known monumental record of Egyptian conquest. On another tablet, Senefru's successor Cheops,

is seen striking an Asiatic foe to the earth in the presence of the ibis-headed Thoth. After Cheops, the mines seem to have been abandoned till the reign of Sefhres, second monarch of the fifth dynasty. This king, again, is represented as conquering the shepherds; and two reigns after him, Ra-en-usr, or Rathoures, surnamed An, records his recapture of the mines after their loss or abandonment. An's successor was Mencheres; and inscriptions, dated in this monarch's reign, for the first time make mention of one of those royal commissions, or organized parties of exploration, by which the works seem thenceforward to have been conducted. Tancheres, of the next reign, sent another commission, consisting of a governor, chief, sacred scribe, workmen, inspectors and others. This monarch also is shown as conquering an Asiatic enemy.

In the sixth dynasty, Pepi or Phiops, the second king, is drawn in an attitude of conquest, suggesting that the region had been abandoned or wrested from Egyptian hands. A royal commission sent by this king comprised a *captain of troops*, a superintendent of transports, a sacred scribe, and inspectors. Nephcheres, the next but one after Pepi, is the last Egyptian king recorded at Maghârah. He sent a commission of twelve persons, under a divine "hierodule" or chancellor, named Hapi. From there being no mention of a captain of the boat, as in former inscriptions, it is inferred that, while other expeditions had crossed or descended the Red Sea, the journey was, in this case, made all the way by land.

From the close of the sixth until the twelfth dynasty, an interval of probably not less than 450

years, no monuments of Egyptian monarchs have been found at Maghárah. The site was abandoned, and was not reoccupied until the reign of Usertesen, second monarch of the twelfth dynasty. Usertesen was succeeded by Amenemha II., in whose reign the mines at Sarábít el Khádim were discovered, and it is evident that about this time, though Maghárah continued to be worked at intervals, the *mafka* in that locality was beginning to fail. There are some interesting tablets of the reigns of the monarchs Amenemha III. and IV., of this dynasty; one, in the former reign, describes a military expedition of 734 men, led by a sacerdotal and civil functionary, Khentefaitetp, son of Nahsi, to bring the *mafka*, and the *ba* (iron or copper) from the spot. The presence of so large a body of troops shows the importance which was attached to the mines. One is a sepulchral tablet to a functionary called a superintendent of fowlers; while another, of the sixth year of Amenemha IV., records that a certain Senefru, "superintendent of fowlers," had successfully tended the flocks of the region.

After Amenemha IV., Maghárah was deserted, and it was not reopened till near the middle of the eighteenth dynasty, at which time a tablet of the joint reign of Queen Hatasu and Thothmes III. shows that an expedition was made. After this, or about B.C. 1580, it was finally abandoned by the Egyptians.

Sarábít el Khádim.—Of the monuments here, a great many are votive inscriptions in honour of the goddess Athor, mistress of the *mafka*, and of the contemplar gods, Sept, the Lord of the East, and Khnum

or Chnumis, who were worshipped with her; and they record the thanks and vows of those who were employed at the mines. Others give interesting details of the opening of the various quarries and excavations, the progress of the works, the composition of the expeditions, the supplies received, and the results of the mining. While some of the tablets and inscriptions are cut, as at Maghára, on the adjoining rocks, and on the walls, pillars and other parts of the temple, a large number were executed on so-called *stelæ*, or upright sandstone tablets, with rounded tops, erected in great numbers within the enclosure of the temple, and in the neighbourhood. These stones, many of which are still standing, so closely resemble grave-stones, that, for a long time after the discovery of the spot by Niebuhr in 1761, it was supposed that they marked the graves of Egyptians who had died during the mining operations—a supposition, however, which is not in any way borne out by the inscriptions. The dimensions of the *stelæ*, above ground, are from five to eight feet in height, two feet in width, and from twelve to sixteen inches in thickness. Several of them are in excellent preservation, but some are split and broken, and in others the sharp driving sand has polished away all prominences, and worn and fretted the stone in a very peculiar manner.

Though the temple of Athor has no inscriptions on it of an earlier date than the reign of Thothmes III., of the eighteenth dynasty, it is believed to have been founded by the last monarchs of the twelfth dynasty, about the time when Maghára was abandoned in favour of Sarábít el Khádim. Lepsius ascribes its

erection to Amenemha III., the last monarch but one of the twelfth dynasty. The ruins stand on the edge of the table-land of Nubian sandstone, which is here about 2,650 feet above the sea. Close to them, a precipitous cliff falls about 700 feet into the neighbouring wády or branch from the Debbet er Ramleh. To its situation on these rocky heights the site doubtless owes its name, *sarábít* being the Arabic for "heights," while *Khádim* is probably derived from the ancient Egyptian *khatem*, a citadel, fortress, &c. The ruins are apparently those of two temples of different dates, the earlier one consisting of a rock-hewn chamber, with an open vestibule in front, the later of a larger building and court, connected with the first, but, on account of the form of the ground, not in the same straight line with it. Both bear evident traces of having been reconstructed at some period. They are built of well-cut stone, without mortar. The walls of the vestibule are covered with Egyptian scenes, many of them now imperfect from the stones having been disarranged. Those of the rock-hewn chamber, originally covered with coloured bands and hieroglyphics, have been much injured, though enough remains to tell of their former beauty. The later temple is now a mass of ruins; door-posts, pillars, lintels, Athor-headed capitals, and *stelæ* being all heaped together in the utmost confusion, so that it is difficult to trace out the original form of the temple. Ruppell in 1822, Lepsius in 1845, and others since, have visited Sarábít el Khádim; but the first accurate plan of the temple was made in 1869 by the Sinai Expedition; and Professor Palmer added a considerable number of copies

of inscriptions to those which had been procured by previous travellers. Besides inscriptions, many fragments of Egyptian glazed ware or porcelain, and parts of vases used in the service of the temple, have been found amongst the ruins, and deposited in the British Museum. Scarabæi, and bits of necklaces and other ornaments, have also been found. The turquoises were mined in the near neighbourhood of the temple; the copper and iron workings extended over a considerable area of the sandstone hills and valleys, the chief seats of mining having been apparently about Wády Nasb and Wády Kharít, some seven or eight miles from the temple. Owing, doubtless, to its good supply of water, Wády Nasb was apparently the headquarters of the smelting operations.

The earliest inscription at Sarábít el Khádim is cut on the rock *in situ*, and records the opening of the mines by Mentuhetp, a high dignitary called a "royal acquaintance," in the time of Amenemha II., of the twelfth dynasty. Another mine was opened in the twenty-fourth year of the same monarch, and there are several tablets of the reign of his successor, Amenemha III. In one of the latter, the "superintendent of the chamber of the treasury," the official under whom the mines seem to have been almost always worked, thus records his achievements on the rock in an old quarry a mile south of the temple:—

"Oh, all living on earth who come to this mine, glorify ye the king, praise ye the gods, come in peace; say ye, Abundance of bread and beer, oxen and geese, incense, and all things off which a god lives, to the superintendent of the chamber of the treasury, Sebak-her-heb, living again, son of the lady of the

house, Han, son of the superintendent of the chamber of the treasury, Sebak-her-heb, who says, I worked the quarry of my lord, the workmen came and completed their work; never was there any neglect by that chief who is called the royal counsellor of the palace, the favoured of the king, proclaimed by his spirits, adoring the king, inspecting what he has done to the rocks, in passing through them giving light to their hidden places, the rocks of the country throughout their length, the substance of Set, who gives to . . . the divine servant, the superintendent of the chamber of the treasury, Sebak-her-heb thou Athor, mistress of the mafka, who says, I brought as offering to her a tablet of worked stone . . . clothes linen. I offered to her divine supplies of cattle, bread, and beer," &c., &c.

There are fewer inscriptions of the next reign, that of Amenemha IV. In one of them, Ankhran, the superintendent of the chamber, invokes all passers-by to worship the spirits of the king, and alludes to the investigation of the rocks. In another, a superintendent describes how he worked continuously at the mine with a gang of fifteen men, obtaining more produce than that extracted at Maghárah in the days of Senefru. A remarkable, but undated inscription is one in which a superintendent named Harura describes his arrival at the mines and his subsequent proceedings. Addressing the workmen, he states—

"If your faces fail, the goddess Athor will give her hands to you to aid you at the work. Look at me, how I waited there after I left Egypt, my face sweated, my blood was heated."

And then proceeds—

"I ordered the workmen there working daily for what was in that mine, saying daily to them, 'There is always *mafka* in that mine, and the vein will be found in time.' The mine was as we

heard : the vein came at last ; its produce was very good at the time ; it ceased in the month Pashons. I approached that mine ; the king's spirits gave me courage ; and when I reached that place, I began to work very hard. The troops came and entirely filled it ; none escaped out of it. My face did not grow frightened at the work ; I set to work cheerfully. I took it in the month of Pashons. I brought abundance of *maska*, and obtained more by my search, all . . . I did not [lose] any of the vein."

From the mention of troops in this inscription, it would appear that the miners were liable to molestation from the neighbouring tribes. Other inscriptions of this period relate to convoys of cattle, poultry, wild-fowl, corn, vegetables, and other supplies.

From the twelfth to the eighteenth dynasty, Sarábít el Khádím was abandoned, probably in consequence of the advance of Asiatic tribes upon the eastern frontier of Egypt. It was not till the monarchs of the eighteenth dynasty had successfully overcome the Hykshôs, and re-established their boundary, that they were able to re-conquer the peninsula and resume the mining operations. This, as was explained in the account of Maghára, took place in the joint reign of Hatasu and Thothmes III. Tablets show that the mines continued to be worked in the reigns of Amenophis II., Thothmes IV., and Amenophis III., of this dynasty, after which came an interval of abandonment.

About B.C. 1440, Sethi or Sethos I., second king of the nineteenth dynasty, reconquered the mining district, and he and his successor, Rameses II., continued the workings. There then appears to have been an interval of four reigns without inscriptions,

though the names of the monarchs are mentioned in other inscriptions, and in fragments of vases used in the service of the temple. It is in this interval, in the reign of Menephtah, son and successor of Rameses II., that the Exodus is believed by most Egyptologists to have taken place, the date having been probably about B.C. 1320.

Setnekht, first king of the twentieth dynasty, re-occupied the mines, and they continued to be worked in the eventful reign of his successor, Rameses III., the Egyptian Solomon. The titles and prænomen of Rameses IV. appear on fragments of the temple. There is no mention of any king after him, excepting that the name of Rameses IX. appears on a vessel of the temple. Probably, therefore, the mines of Sinai were finally abandoned about B.C. 1200.

PRIMITIVE REMAINS.—Next in archæological interest to the Egyptian antiquities last described are the *stone remains* of various kinds which are found scattered over the peninsula and in many parts of the Bádi et Tíh, and which, from their evident antiquity, may be classed as Primitive. They consist of Stone Dwellings of the “beehive” type, some of which have been used since as burial-places; of Sepulchral Stone Circles; of Stone Enclosures not sepulchral; and of Archaic Sculpturings.

Stone Dwellings.—These are called *nawámís*, a word supposed by the Sinaitic Bedawín to mean “mosquitoes,” their legend being that they were built by the children of Israel as refuges from a heaven-sent plague of mosquitoes. By the Arabs in other parts of the Desert they are merely called *gusur*,

or "castles." In structure they very closely resemble the ancient "bothan" or "beehive houses" of Scotland, one of the oldest known forms of habitations, some of which are still used as summer dwellings by the herdsmen of the Shetland Islands. They are nearly circular in shape, and vary from eight to thirteen feet in diameter, and up to ten feet in height. The walls, which are built of large flat slabs of unhewn stone, rise perpendicularly for about two feet from the ground, after which each course is made to project a little inwards beyond the one below it, thus giving the building its dome-shaped or beehive form. This is continued until the stones nearly meet, when the opening left at the apex is covered by a large flat slab over all. Each house has a small doorway about two feet square, with rude lintels and occasionally doorposts. Sometimes two or three only of these dwellings are found together; but sometimes they are in groups of thirty or more. The chief clusters examined by the Sinai Expedition were those in Wády Umm Jorfain, Wády Hebrán, Wády Nasb, the Nagb Hawa, Wády Soláf, and Erweis el Ebeirig. In the winter of 1869-70, Professor Palmer found others in Wády Wutáh, and near 'Ain Hudherah; and a very interesting group in Wády el Biyár, admirably preserved, as well as large numbers scattered over the hill-sides at the foot of Jebel el 'Ejmeh; others in Wády el 'Aggáb, not far from Nakhl in the Tíh; and at various points south of 'Ain Gadís. M. Lottin de Laval saw a large collection of them near En Nuweibeh, and, probably misled by the tales of the Bedawín, he adopted the opinion that they were graves of the

Israelites, though he found no traces of interment. Mr. Holland also mentions large clusters near Dhabab, and on the plateau of Zeraník. Generally they are situated on the lines of water-parting at the heads of wádies, or on the slopes or summits of hills, but never in the valley-beds. It is a curious fact, and one of interest in its bearing upon discussions as to the climate of the Desert in past ages, that, with hardly an exception, the old houses are more or less remote from the water-springs of the present day.

It is impossible to say for certain now what race of people were the builders and occupants of these interesting structures. Experts have differed on the question of their true age and origin, the solution of which is still obscure. Their rude primitive form, and the absence of workmanship¹ in their construction, bespeak a high antiquity. The good state of preservation in which many of them are found furnishes no argument against their age in a climate like that of the Desert, where, as we have already seen, Egyptian remains of a more perishable kind have stood the test of 5,000 years. That they are at least older than the Sinaitic inscriptions has been established by an interesting discovery made by the Ordnance surveying party, who found several of the stones of a partly-ruined *námús* in Wády Umm Jorfain inscribed with Sinaitic characters so placed as to leave no possible doubt that the inscriptions had been executed after the building had been partially destroyed. Though these writings must have

¹ Only in Wády el Biyár were there any signs of the stone having been worked, either with an instrument or by rubbing with other stones.

been sculptured at least 1,200 years ago, they are still quite fresh in appearance, and the walls have suffered but little damage since. It is plain also, from the numbers and wide distribution of the *nawámís*, that they originally formed the homes of a considerable permanent population, doubtless pastoral, and possibly to some extent agricultural, as remains of ancient gardens were seen by Mr. Holland amongst those at Dhahab. Taking all the facts into account, together with the absence of other proof of their true age and origin, it seems allowable to surmise that they may have been the dwellings of the "An" tribes of the Egyptian inscriptions, or possibly of that very people of Amalek which fought against Israel in Rephidim, if, indeed, these be not one and the same.

In a great many cases the stone houses have been converted into tombs by some later race, who for this purpose closed the doorways and removed the roof-stones, laying the corpses at full length on flat stones inside, heads to the west, and then covering them with earth, and finally with stones, until the interior was filled up. In those which were examined by the Sinai Expedition, the bones crumbled to pieces directly they were touched; they were mixed with earth and with a little charcoal, perhaps the remains of some mourner's fire. The only articles found were a shell bracelet, which had been broken and mended, a fragment of a second bracelet, and a few shell beads. Major Wilson has pointed out that the mode of burial is not unlike that of the Bedawín of the present day, who often make use, not only of the *nawámís*, but of the monastic stone tombs in Wády Feirán, and he suggests that the interments

may possibly have been those of some of the native Christian population who lived in the peninsula during the monastic occupation. In the group of *nawámís* in Wády el Biyár, already mentioned, Professor Palmer found in the centre of each a small cist, which had apparently served as a hearth, and beside it a smaller hole, both roughly lined with stones and covered with slabs and earth. Charred wood and earth and human bones were found in some of the cists, which, however, were too small to have ever served as tombs for complete skeletons.

Stone Circles, &c.—The Sepulchral Circles are found in many parts of the peninsula, sometimes alone, sometimes associated with *nawámís*. They usually consist of a single outer ring of large standing stones, from 3 feet to $4\frac{1}{2}$ feet high, and placed in contact with one another; in some cases, however, there are two concentric rings. The outer rings vary from 10 feet to 40 or 50 feet in diameter, the size having apparently depended on the space which was available; and the stones are granitic or of sandstone, according to the districts in which the circles are situated. In the centre of each circle is a cist or chamber, about 4 feet long and $2\frac{1}{2}$ feet wide and deep, its sides composed of four large stones, and the top covered by a heavy stone slab, generally level, or nearly so, with the surface of the ground. In this cist the corpse was placed, on its left side, and with the knees bent up towards the chin, a position which is generally regarded as one of the oldest known forms of burial. Over the cist is a small cairn, enclosed by a ring of standing stones, of smaller dimensions than those in the outer circles.

None of the cists opened by the Sinai Expedition contained anything in addition to the skeleton, except in one instance, when some marine shells and worked flints were found. But one in Wády Sidreh, close to Maghárah, which had been examined a few months before by Messrs. Bauerman and Lord, of the Vice-roy's Expedition, yielded "a small bracelet of copper, associated with lance and arrow-heads of flint, and a necklace of beads formed of spiral marine shells bored through for stringing."

The remains thus described are nearly identical in character with those which in England and Scotland are commonly called Druidical circles. They are scattered over the peninsula in groups of from four or five to as many as eighteen or twenty in number. In one case only—namely, at the Matabbed Deir el gadím, referred to at page 80—were they found by the Sinai Expedition associated with the beehive houses. The remains here consist of four or five stone circles and several *nawámís*, situated within and round a circular walled enclosure.

Professor Palmer, however, in his later journey, found groups of *nawámís* in connection with stone circles at two points not far apart, near the foot of Jebel el 'Ejmeh. In the same neighbourhood he came upon several immense groups of stone remains, associated with sepulchral circles, but differing essentially both from them and the *nawámís*. These consist of series of very large circles, communicating with one another, and divided into compartments, with a large open area in the middle of each. The walls throughout are about 3 feet high, and are

formed of large stones and boulders carefully packed together, the whole very closely resembling the rude field defences, by which, in Morocco, the Maghrabín or African Arabs, originally emigrants from Arabia, protect themselves against the raids of lawless tribes inhabiting the Atlas mountains. These little forts are there called *dowárs*; the central space is left for the herds and flocks at night; and the tents, pitched round it, are protected by the low stone walls, to which additional strength is given by the insertion of a *chevaux de frise* of thorny acacia, so fixed as to make a very formidable barrier. Professor Palmer regards the similar remains at Sinai as the permanent fortified camps of an ancient pastoral people; and he identifies them with the "Hazeroth" or "field enclosures," mentioned in the Bible. Enclosures of very much the same kind may be seen in use at this day on Mount Hermon. To the same class, probably, belongs a large group of ruins discovered by the Sinai Expedition at a spot a few miles south-east of Jebel Músa, called Gabr Engaibah, the "tomb on the little pass." At this point, remains of all three classes were found together in large numbers. Opinions differ as to whether the sepulchral circles belonged to the builders of the beehive houses, or to the race who constructed the field-forts, and the question, which is a good deal complicated by their being so curiously mixed up together, still awaits solution.

The ruins discovered by the Sinai Expedition at Erweis el Ebeirig, between Jebel Músa and 'Akabah, and the curious legend connected with them, were referred to at page 79. They form a class by

themselves, differing from all other ancient remains hitherto found in the peninsula. Though there are a few stone houses, the remains consist chiefly of a great number of small enclosures of stones, mostly circular, and extending over several square miles of country. The stones are not set on end, their arrangement being not unlike that which may be seen on spots where an Arab encampment has been, though they certainly cannot be taken for Arab remains. The large enclosures intended for important personages, and the hearths or fireplaces, can still be distinctly traced, showing conclusively that it is a large deserted camp. In the neighbourhood, but beyond the camp area, are a number of stone heaps, which, from their shape and position, are probably burial-places without the camp, though none have yet been examined.

Archaic Sculpturings, such as "cup markings," or cup-shaped holes cut in the rocks with rude tools, foot or sole marks, and other old rock-sculptures and markings, have been found all over the peninsula. The largest collection, perhaps, is that on a small boulder in the Pass of the Wind, which is covered with cup markings, and used as a Bedawí landmark. The legends connected with this and other curiously marked rocks show that it has been a custom from time immemorial for the rude inhabitants of the Desert to mark their borders with stones, upon which each tribe cut or scratched its own peculiar symbol. The custom, moreover, prevails to the present day; and it is a noteworthy circumstance that the marks now in use amongst some of the Arab tribes closely correspond in pattern and appearance with the stone markings in

Scotland, Ireland, and other parts of northern Europe, an explanation of which is thus readily suggested.

SINAITIC ROCK-INSRIPTIONS. — Third in order amongst the ancient remains are these famous inscriptions, which have excited, perhaps, more public interest than any other objects of antiquity in the peninsula. This has been due, partly to the mystery which for a long time shrouded their origin, and specially to a widely cherished popular theory that they were the handiwork of the Children of Israel. That theory, however, has no foundation, and the religious interest which has for so long been attached to the Sinaitic inscriptions is now proved to have been entirely fictitious. But, though their worthlessness has been clearly established, it is satisfactory that we at length know the facts, and that the ingenious, however well-meant, efforts which were made to bolster up the cause of truth by visionary statements and fallacious reasoning have been finally set aside.

The first recorded mention of the Sinaitic inscriptions was made by Cosmas Indicopleustes, an Alexandrian merchant, who passed through the peninsula about A.D. 530, and who in his account, which was published in 1707, ascribed them to the Children of Israel, apparently on the ground that, though in a language unknown to himself, they had been read by one or more Jews of his party, who described them to him as denoting "the journey of such a person, of such a tribe, in such a year, in such a month." It would seem, however, that this proves nothing more than that Cosmas's Jews happened to be better acquainted with the language of the inscriptions than he was.

About the year 1750, Bishop Clayton, of Clogher, an adherent to Cosmas's view, aroused interest in the subject by offering a reward of £500 for a complete copy of the inscriptions in Wády Mukatteb, the scene of the principal group of them. Soon after this, Pococke, afterwards Bishop of Ossory, and after him Mr. Montague, copied a few of them; and later, Niebuhr, Seetzen, Burckhardt, and others added at intervals to the collection. But Mr. Grey's collection of 187, published in 1830, was the first important contribution to the literature of the subject. This attracted the attention of Professor Beer, of Leipzig, an eminent Orientalist, who, after a long investigation, published in 1841 the first critical decipherment and translation of the inscriptions, his exposition comprising selections from copies by Pococke, Niebuhr, Burckhardt, Grey, Laborde, and others. Discarding Cosmas's view, Beer asserted that they were palpably of Christian origin, and that the greater part of them must have been executed not longer ago than the fourth century after Christ, when the custom, then very prevalent amongst European Christians, of making pilgrimages to sacred localities may have kindled a like desire amongst the inhabitants of Arabia Petræa. He attributed their authorship to the people vulgarly known to the Greeks and Romans under the name of Nabathæans, who at this period inhabited Arabia Petræa, and had their capital at Petra;¹ or, at least to some neighbouring and kindred

¹ Inscriptions closely resembling the Sinaitic have been found at Petra, and in Central Syria, and on very old coins.

tribe, whose dialect would not differ sensibly from that of the Nabathæans proper.

Even if no satisfactory analysis of the inscriptions had been achieved by Beer, Cosmas's theory of their origin could not have long remained disproved. One very strong argument against their Israelitish authorship lay in the fact that they are not found in the scenes of Israel's later wanderings, after leaving the peninsula. Again, in the collections by the latest travellers are included several bilingual inscriptions, that is, inscriptions of the same tenor and evidently by the same hand, engraved both in Sinaitic and Greek. This not only showed their comparatively modern origin, but gave valuable clues to the elucidation of the Sinaitic characters. The very frequent occurrence in the inscriptions of Christian crosses and monograms, of various well-known forms, also adds a strong proof that at least many of them must have been executed since the time of Christ; though, at the same time, the fact that the names in the inscriptions are all heathen, Christian and Jewish names being entirely wanting, points to a very considerable antiquity.

In 1849, Professor Tuch, of Leipzig, while accepting Beer's alphabet as correct, maintained that the dialect was of an Arabic type, mixed with Aramaisms, the language of an ancient heathen race who inhabited the peninsula for a few centuries before and after Christ, the same people who, in the latter part of this period, persecuted the early Christian hermits and recluses of the peninsula. He pointed out that gatherings at sacred places of their worship were not uncommon amongst the Arabs before Mohammedan-

ism, and he quoted Diodorus Siculus (about B.C. 10) in proof that, in his day and earlier, a sacred oasis in the peninsula of Sinai, containing an altar inscribed with ancient characters, used to be visited every fifth year by the tribes round about, who held a great festival and sacrifice on the occasion, just as the modern Bedawín do each year at the tomb of Sheikh Sáleh, near St. Catharine's. Tuch considered that the inscriptions must have been executed before the fifth century since Christ, and he regarded the Christian crosses and signs as ornamental only, or as later additions by Christian wanderers. Gesenius, on the other hand, more correctly supposed the Sinaitic characters to belong to that species of Phœnician or rather Aramæan language which, in the early centuries of our era, was used largely in Syria and partly in Egypt. Levy pronounced the language to be Aramæan, which had gained additions from the Arabs.

Since the appearance of these essays, many others of the inscriptions have been copied, or rubbings or casts of them taken, by more recent travellers, such as Lepsius, the late Captain H. T. Butler, and his brother the late Rev. Pierce Butler, M. Lottin de Laval, Mr. Holland, and others; and several German and French philologists have from time to time published papers and pamphlets on their interpretation and origin, mostly following more or less closely the lines of the previous essayists. The only authority of any weight as a writer who adhered to Cosmas's view seems to have been the late Rev. C. Forster, and he did so with extraordinary persistency in the face of the plainest facts, spending many

years and writing many books in desperate attempts to prove the Israelitish origin of the inscriptions. Although Montague, amongst the earlier authorities, was disposed to side with Cosmas, the information he had to go upon was very imperfect. The late Mr. John Hogg, though not denying that some of the inscriptions might have been executed by the Israelites, evidently had grave doubts on the point. Sir Gardner Wilkinson, who had discovered some "Sinaitic" inscriptions on the Egyptian side of the Gulf of Suez, at several points extending as far down as to sixty or seventy miles below Rás Muhammed, mixed up, as at Sinai, with Greek ones, held that they were evidently the work of a people who navigated that part of the Red Sea, a supposition which, as will appear presently, seems to have been in the main correct. Lepsius considered them to be the work of a Christian pastoral community, whose chief town was at Feirán.

The question was in this unsettled state when, in 1868, Professor Palmer, accompanying the Sinai Expedition, was commissioned to attempt its solution. While the earlier inquirers had been affected by misconceptions or ignorance, and later ones had suffered from want of accurate copies and information, Professor Palmer enjoyed the advantages, not only of great erudition, but of ample leisure and of a personal scrutiny of the writings on the rocks themselves. Of these advantages he made the best possible use, and after some months of patient work he succeeded beyond his most sanguine expectations. His researches were carried out with fairness and deliberation, and

nothing was accepted without conclusive proof. In order to make sure that his line of inquiry should be thoroughly independent and practical, he refrained from consulting the works of previous essayists until he should have formed his own conclusions. Having arrived at the peninsula, his first impression on seeing the inscriptions was that the chief difficulty hitherto met with had been the inaccuracy with which the copies had been made, and that a good deal of care, study, and practice would be needed before they could be faithfully transcribed. He then, assisted by Mr. Holland, began the task of collection, making careful drawings, and studying the inscriptions as much as possible upon the rocks themselves. It soon became evident to him that, so far from being in a unique character, the inscriptions were in reality nothing but another phase of that Semitic alphabet whose forms appear alike in the Hebrew, Arabic, and Greek. They seemed to constitute an intermediate link between the ordinary Hebrew and the Cúfic or old Arabic; and this relationship was shown still more clearly by a comparison of the two classes into which the inscriptions resolve themselves, some having the letters detached, and closely resembling Hebrew, while in others the letters are connected by a line, and are more cursive in form, so that an unpractised observer might easily mistake them for Cúfic. Gradually, the identity of individual letters became almost certain. It was noticed, too, that Greek inscriptions were mixed up with the Sinaitic, and apparently coincident with them in date, and that certain words in the Greek, chiefly proper names, tallied with words in the Sinaitic, such as would be pro-

duced by adopting the apparent identifications of the Sinaitic letters. Still, Professor Palmer withheld any decision until he should have examined the large collection in Wády Mukatteb, which he had not yet visited, and the bilingual inscriptions which were said to exist there. The result of this further examination was a genuine triumph. The main collection confirmed all his previous hypotheses. No fewer than twelve bilingual (Greek and Sinaitic) inscriptions were found in which there was the plainest evidence, in the forms and style and the character of the cutting, that both had been done by the same hand. Further than this, these inscriptions established beyond all possible doubt the correctness of Professor Palmer's previous identifications of several of the Sinaitic letters, and enabled him to demonstrate the value of the rest, and ultimately to assign intelligible meanings to all of the inscriptions. Thus, after about four months of collecting and study, he arrived at his decipherment by a perfectly independent and self-interpreting process; and on comparing the results which he had obtained with those of Beer, Tuch, and others, he had the great satisfaction of finding that, while the conclusions of those eminent scholars were confirmed as to the main facts of the alphabet and its interpretation, he was in a position to correct errors in their work, to supply deficiencies, and to produce proof positive for much that with them had, however correct, been mere conjecture.

The copies brought home by Professor Palmer, about 3,000 in number, comprise nearly all of the legible inscriptions extant in the peninsula. Many of

the originals were so worn that previous travellers had failed to make them out, and had brought home fragmentary and almost useless copies. But, by examining them day after day, and in every possible light, Professor Palmer succeeded in getting complete transcripts of nearly the whole of them. The inscriptions consist of short detached sentences in an Aramæan dialect, which may, perhaps, be best popularly described as a mixture of Assyrian and Hebrew. They contain proper names,¹ with such complimentary formulas as Orientals have, from time immemorial, been accustomed to affix to their compositions. So far, they accord fairly with Cosmas's description, and there is nothing very remarkable in the fact that his Jewish companions should have been able to read, as he asserted they were, inscriptions in a character and language so cognate to their own. "John Brown passed this way ; peace be upon him ;" or, "William Smith, son of Thomas Smith, rested here ;" such, in plain English, are fair types of the meaning of nearly all the Sinaitic inscriptions, which thus sink down, as a *Saturday Reviewer* has pointed out, to the level of somewhat ancient instances of "Bil Stumps, his mark." The famous bilingual in Wády Mukatteb, the first of this kind which was discovered, and which excited much comment and speculation, means simply "May

¹ It is worthy of note that the names correspond with those now prevalent amongst the Jibálíyeh. This confirms the views expressed at page 58 as to the ancient descent of that tribe. But the name Músa, now so common amongst the Bedawín, does not occur in the inscriptions, and has therefore probably been introduced since the seventh century.

Ausos, the son of Herisou, be remembered for good." Mr. Forster's theories, when viewed in the light of plain facts, soon crumbled to pieces.

Amongst the many mistaken ideas about the Sinaitic inscriptions which were long entertained, one of the principal was a belief that they were not widely distributed, and were confined to one or two main routes on the western side of the peninsula. Nothing could be more absolutely erroneous. They are found scattered over the whole country south of the Tih, not only along camel roads, but in secluded and almost inaccessible spots, in the wildest ravines, on the highest hill-tops, in remote valleys, leading, so to speak, nowhere, and on all sides, north, south, east, and west, of the central mountain cluster. Their wide distribution, indeed, would in itself be enough to prove pretty clearly that they cannot have been the work of the Israelites, but must have been executed by people who were permanently resident in the country.

Certain considerations must, of course, have governed their distribution. Naturally, they would abound most in and near the centres of population and resort in the age in which they were written, and along the chief highways then in use. Spots near water or pasture, and hence suitable for encampment, or those affording shade for a noon-day halt, and especially districts where the rocks themselves offered temptations to scribblers, seem also to have been principally chosen. It is on this last account that the red sandstone rocks were chiefly preferred; the inscriptions on them are more easily cut, show better, and last longer, than those on the granitic rocks, the

surface of which weathers badly; while the sandstone, notwithstanding its internal softness, is very hard and durable externally. For conspicuousness, however, the most remarkable inscriptions are those cut on fragments from the dykes in the gneissic ranges: these rocks, which are very hard, weather on the surface to dark colours, usually a deep brown or rusty red, while the interior is much lighter, so that the inscriptions stand out with startling clearness.

The Wády Mukatteb, or "written valley," so called from its numerous inscriptions, contains, as has been already said, by far the largest collection in the country. Here, in a space of three or four miles, are found about 1,500 of them, or nearly one-half of the whole number hitherto discovered in the peninsula. Nothing could be more rash or exaggerated than the statements which have been made by some authors regarding the physical character of this valley, and the positions and numbers of the inscriptions. Mr. Forster notably erred in these respects, speaking of "heights attainable only by the aid of platforms or ladders from below, or of ropes or baskets from above;" of "heights which no chance voyagers could reach;" of "cliffs of an altitude to defy the passing pilgrim, covered with inscriptions nearly to their summits," and so on; while he described their numbers as only to be estimated "by thousands," and their heights "by fathoms as often as by feet." Laborde spoke of the wády as a "ravine." The Superior of the Franciscan monks in Egypt, who visited Wády Mukatteb in 1722, described its cliffs as the "written mountains," and said they were of hard marble. From these and other writings

there arose a general impression that Wády Mukatteb was a deep, narrow defile, with rocky walls covered to a considerable height with imposing characters. In reality, it is simply a broad shallow channel, from twenty to forty feet deep, winding through a gently inclined plateau of sandstone, from one to two miles wide ; its low cliffs on either side are weathered into rough terraces and ledges, while the ground at their base is piled with fallen blocks and fragments. Some of the inscriptions are written on the rocks *in situ*, chiefly on the smooth vertical faces of the lower strata, but by far the greater number are on the fallen blocks. Of the former, very few are higher than twenty feet from the ground, and nearly all are within easy reach, either from the *débris* or from ledges in the rock. In some few cases, the ledges which supported the writers have broken away, and the fallen fragments are plainly distinguishable below.

Though the inscriptions extend throughout the valley, that is for about six miles, and into the neighbouring Wády Igne, the greater part are contained in three or four principal clusters in a space of about a mile near the lower end. They are most numerous on the west side, close to the road, and in places screened from the afternoon sun. Towards the head of the valley they become scarce, and are coarsely executed, the rocks being rough and ill-suited for inscription. There is one inscription here with letters a foot long, but the average length is from $2\frac{1}{2}$ to 4 inches. Some are in Sinaitic only, some in Greek only, some in both ; and there are some in Arabic and Coptic, rudely cut, and in smaller cha-

racters. In meaning, all are equally worthless and unimportant. The Greek seems to have been imperfectly known, and was often written backwards, Oriental-wise. Intermixed with the inscriptions are large numbers of figures, cut in the same rude style, and evidently by the same hands. Amongst them, the most common are men and camels in all imaginable attitudes, some of them grossly indecent. There are also horses, asses, and mules, ships and hunting scenes, dogs, ostriches, tortoises, ibexes, gazelles, hares, lizards, palm-trees, and snakes. The best of the Sinaitic are neatly chiselled, but by far the greater number are cut or dotted very irregularly and unskilfully, by chipping the surface with pointed bits of flint or other hard stone. In Wády Igne, the inscriptions, both Greek and Sinaitic, are mostly chiselled, suggesting that Aramæan-speaking miners worked at Maghárah ages after its abandonment by the Egyptians. The bilingual in Wády Mukatteb, just now referred to, was probably done thus by some miner, the letters being well carved and inclosed in a neat line frame. On the top of Mount Serbál, which formerly had a beacon tower, and consequently was a place of secular gathering, there are traces of several Sinaitic inscriptions executed in white paint or whitewash.

On the question of the authorship of the inscriptions, Professor Palmer dissents from Beer's theory that they are the work of Nabathæan pilgrims. He argues that they must be attributed, as a whole, not to pilgrims of any country, but rather to the commercial community who inhabited, or, at least, colonized the

peninsula during the first few centuries of the Christian era. Though there is very clear internal evidence that a large proportion of the writers were pagans, it is equally clear from the number of Christian signs which were used that many of them were Christians. The inscriptions must have extended into the monastic times, very possibly until the spread of Arabian conquest, in the seventh century, brought the ancestors of the present inhabitants, Bedawín hordes from Arabia proper, to the Sinai mountains, and dispersed or absorbed the Saracen population who then occupied the country. According to the accounts of Arab and other historians, the peninsula was in a more prosperous state in the early part of our era than it is now, and especially so during the monkish occupation which, beginning about A.D. 250, was at its height from the fourth to the seventh centuries. During this latter period there was a very large foreign Christian population, besides pagan and Christian natives; and the main route through the peninsula was largely used for traffic between Egypt and Arabia. In these prosperous times there must have been *súks* or public marts, and even permanent colonies of traders, to supply the wants of the inhabitants; and a busy traffic doubtless penetrated into many parts of the country. Besides the marts, it is possible also that fairs or festivals may have been held at some points, and have attracted large gatherings of people. The persons attending these marts and gatherings and taking part in the traffic, speaking also and writing the Aramaic dialect, which was then as prevalent in the East as Arabic is now, would be just as likely to leave *graffiti*

behind them, as, unfortunately, our own countrymen and others are at the present day. Hence the wide distribution of the inscriptions.

The abundance of the inscriptions in Wády Mukatteb is easily accounted for if assemblages from one or the other of the above causes were wont to take place there. It must be remembered also that the main highway through the peninsula has passed along that valley from very early times, and that its rocks are most admirably suited for inscription, while the close neighbourhood of the Maghárah mines may in itself have led to the choice of Wády Mukatteb as a site for such gatherings. On similar grounds we may account for the numbers of inscriptions in Wády Nasb, the central point of the more northerly mining region. The prevalence of inscriptions near Feirán is readily explained by the fact that its natural beauties have at all times made it the favourite resort and centre of population in the peninsula. And, generally, their distribution throughout the country is just that which, reasoning on Professor Palmer's hypothesis, we should expect to find. His whole investigation, in fact, has not only settled finally the curious palæographical question of the language of the inscriptions, but has explained their true age and authorship clearly and satisfactorily, and in a manner which meets the difficulties of the case much better than they had ever been met before. The controversy respecting them may therefore be considered as ended.

MONASTIC REMAINS.—The Monastic Remains consist of monasteries, cells, churches, oratories, hospices

or *xenodochia*, gardens, and tombs, spread in groups over the country, the most important being those at Jebel Músa, Feirán, and Tor. The oldest of these remains date from very early Christian times, from at least the third century, when, according to Dionysius of Alexandria, Egyptian Christians were wont to take refuge from persecution in the mountains of the peninsula. Later, in the fourth century, during the course of the great religious movement which peopled the Thebaid, the community was swelled from another cause. Sinai, with its hallowed scenes of miracles and direct revelations, situated between the two countries, Egypt and Syria, in which Christianity first made a firm footing, held out special attractions to those fanatical Christians who thought to work out their salvation by lives of stoicism and self-denial in holy places of hermitage. Accordingly, in this period, thousands of ascetics, moved by the aspirations of their time, took up the cross and came to dwell in the granitic wilds of Sinai, where they formed themselves into monastic brotherhoods, living in cells and caves in the rocks, doing penances and practising mortifications. The settlement thus formed increased rapidly in numbers and importance. As early as A.D. 324, we hear of the first bishop of Sinai. Forty years later, a church was founded on Mount Sinai by St. Julian. At the end of the century, an archbishop of Sinai attended the Council of Chalcedon. The writings of Silvanus, Ammonius, and Nilus, Christian travellers and anchorites (A.D. 365 to A.D. 420), give interesting details of the state of the country about this time, and of the persecutions which the monks

and pilgrims suffered from the nomad Saracens, many of whom, nevertheless, they seem to have converted to their own faith.

For several centuries, Paran, or Pharan, in the oasis of Wády Feirán, near Jebel Serbál, was the residence of the bishop and council, and the chief centre of monastic settlement. The great natural advantages of the oasis, its proximity to Egypt, and the fact that early tradition undoubtedly marked it as the site of Rephidim, formed sufficient reasons for this choice ; and the walled city of Pharan, strong and prosperous, surrounded by numerous churches, chapels, cells, and tombs, grew upon the site. Jebel Músa, however, which evidently was regarded as Mount Sinai by the early recluses, had from the first a considerable anchorite population, scattered over the hill-sides in rocks and caves, or living together in small groups wherever water was found. They had no large central town or monasteries ; but Eutychius, writing at the close of the ninth century, relates that there was formerly a chapel to the Virgin, surrounded by a tower, on the site of the Burning Bush. According to tradition, these were built by the Empress Helena, the mother of Constantine. About A.D. 550, the Byzantine emperor Justinian, on being solicited by the monks to grant them protection against their Saracen oppressors, built for them a strong, fortified monastery—the present St. Catharine's, but formerly that of the Transfiguration—on the same site, and inclosing the original tower and chapel, remnants of which are still to be seen. The valley in which this building stands, now called Wády ed Deir, or sometimes Wády Sho'eib

(Hobab), was correctly described by Eutychius as "a narrow place between two mountains," the cliff on the north-east rising so precipitously over the monastery that a stone could be thrown from it into the middle of the cloister. It follows that, for a fortress, the site was ill-selected, and that motives of sanctity must have influenced the choice. A chapel on the summit of Mount Sinai was also built by Justinian at the same time as the monastery. Procopius, writing about A.D. 556, describes the monastery as an extraordinarily strong fort at the foot of Sinai, and also mentions that Justinian built a church to the Virgin "far below" the summit. Antoninus Martyr, who visited Sinai early in the seventh century, described a spring within the monastery-walls as that at which Moses was watering his sheep when he saw the Burning Bush. On Mount Sinai, which was covered with hermits' cells, he saw a chapel dedicated to Elijah, and an oratory about six feet square on the summit of the mountain. He refers also to the pagan worship of the Saracens, and to an idol on the Mountain of the Cross (Jebel es Suleib), which overhangs the monastery. Antoninus then visited Pharan, "where Moses fought with Amalek," and where was an oratory with its altar erected over the spot on which Moses stood and prayed during the battle. He described Pharan as a walled city, in close connection with Egypt, and protected by a band of eighty military serfs. Leaving Pharan, he visited Elim, and found there a church and two *xenodochia* within a castle called Sarandela (probably at Wady Gharandel); then, passing an oratory to Elias, erected at the Israelites' first camping-place after their

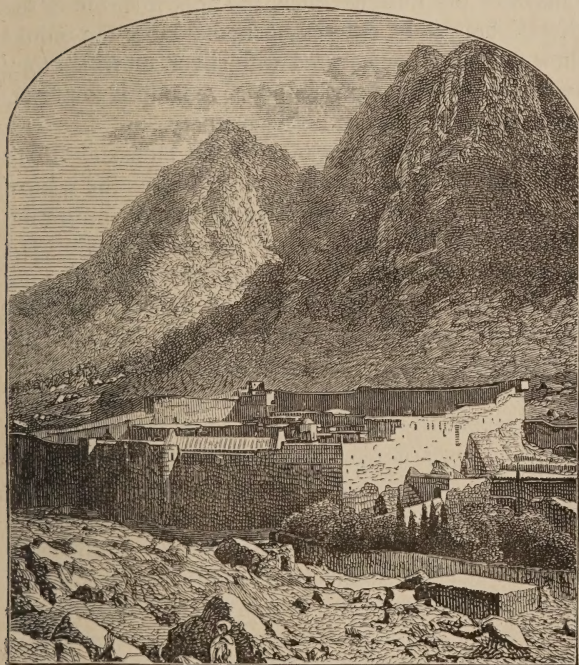
passage through the Red Sea, he ended his journey at an oratory dedicated to Moses, marking the spot, opposite to Clysma, where they were said to have gained the Asiatic shore. About this period, the monastic population of the peninsula probably amounted to 6,000 or 7,000 persons.

The Mohammedan invasion now began (A.D. 627), and from this time till the fourteenth century history gives us only brief notices of the attendances of bishops of Sinai at church councils, and of occasional persecutions of the hermits by the inhabitants. But the state of the churches and monasteries at Jebel Músa and Pharan shows that they underwent several conversions and rebuildings during this period, and speaks of a long-sustained struggle between the monks and the invading Arabs. The settlement at Jebel Músa seems to have gradually superseded that at Feirán, and the chief episcopal seat was transferred to St. Catharine's before the end of the tenth century. Probably the monastic occupation of the peninsula began to fail in the eleventh or twelfth century. From the fourteenth century, accounts are fuller and more numerous. According to the Arab historian Macrízí, Pharan, which he described as a Midianitish town, formerly Amalekite, was deserted in his day, A.D. 1445; and Burckhardt says that all establishments except Justinian's monastery were abandoned by the middle of the seventeenth century. Since then none of them have been re-occupied.

St. Catharine's monastery, perhaps the most interesting one in the world, and the only seat of Christian worship in all Arabia, has been so often described

by modern travellers that little needs be said about it here. Nearly every one has read or heard of its picturesque situation in the narrow wády, between majestic cliffs ; of the gardens, always green and fresh, which give so much life and charm to the bare desert valley ; of the dead-house, with its two chained skeletons of hermits, and the piled-up skulls and other bones of centuries of bishops, priests, and monks ; of its graveyard, church, and mosque ; its monkish, Arab, and other inmates ; its two wells of cool, clear water ; its library and refectory ; of the arms and names of knightly pilgrims carved or scratched here and there upon the walls ; and lastly, of that air of " quaint decay and repose " which pervades the whole place. At one time it must have been a handsome and well-arranged building. Now the interior presents a scene of hopeless confusion and dirt, well befitting the character of the present inmates, and is an intricate labyrinth of paved courtyards, winding passages, dark tunnels, rickety staircases, terraces, verandahs, rooms, cells, chapels, bakeries, distilleries, and stables, jumbled together at all levels, and with no appearance of arrangement. The exterior walls, which form an irregular quadrangle, rest on solid rock. Parts of them have been rebuilt or repaired at different times, and in some places they are cracked, and in others apparently shaken as if by earthquakes. But the massive granite blocks of the older portions, the tiers of loopholes which pierce them, and the *machicoulis* gallery still to be seen over the Bá b er Ráís, or Abbot's Gate (the now built-up ancient entrance in the north-west face),

sufficiently attest the strength and character of the original edifice. The church, the body of which almost certainly dates from Justinian's time, is remarkable for its style and massive grandeur, and possesses many features of high interest to the ecclesiologist, abounding with Christian symbols and emblems ; well-carved doors, thrones, and columns ; chapels, and portraits of saints and apostles ; Byzantine church-plate ; silver



ST. CATHARINE'S MONASTERY.

lamps ; quaint paintings ; fine marble paving ; and elaborate banners, ornaments, and other church furniture. On the vault of the eastern apse is the well-known mosaic of the Transfiguration ; and on the wall above are representations of Moses at the Burning Bush, and of Moses receiving the Law on Mount Sinai. St. Catharine's relics are kept in a chest close to the altar. Behind the apse is the dim, richly-carpeted Chapel of the Burning Bush, the holiest shrine in the church, only to be entered unshod. Here the monks show the spot, now covered with silver, on which they assert that the Bush once stood. A lamp is kept perpetually burning in this little sanctuary.

Over the modern entrance to the monastery there is an Arabic inscription, unnoticed before the visit of the Sinai Expedition, which contains the interesting statement that "the origin of the monastery of Tor Síná was the church on Jebel Moneijáh." The meaning of the name Moneijáh was given at page 22. At present it is applied to a low hill at the head of the wády in which the monastery stands. But, so late at least as the time of Pococke (A.D. 1740), this hill was called Jebel Músa, and the present mountain of that name, however it may have been called by the Bedawín, was only known to him as Mount Sinai ; from which facts, coupled with the statement in the inscription, Professor Palmer infers that the name Moneijáh, or an equivalent, originally and more appropriately belonged to the present Jebel Músa, and that the two names have since been transposed, under monastic influence. It seems far from unlikely, also, that the hill Jebel el Moneijáh, near Serbál, may have received

its name through the agency of the monks of Pharan, influenced by feelings of rivalry towards the establishment at Jebel Músa.

Besides Justinian's monastery, seven or eight smaller establishments of various sizes, now in ruins and unoccupied, are to be seen in the valleys and mountain-basins round Jebel Músa. These were roughly built of rubble and sun-dried bricks, always in spots supplied with water; and advantage was taken of this to form large gardens, some of which are still kept up in a rude way by the Bedawín. In addition to these, great numbers of still smaller buildings or hermitages, each with its bit of garden, are scattered singly or in groups of three or four on the heights of Jebel Músa, and over the whole neighbourhood. Some of them are tolerably substantial structures, but for the most part they are mere caverns or cells, formed by walling in the spaces under overhanging rocks. There are also sundry chapels to prophets and saints on the mountain-top, and a chapel to St. Catharine on the peak of that name. The highest peak of Jebel Músa is crowned by two edifices, a chapel and a mosque, side by side, and both dedicated to Moses. To these reference has been already made (pp. 76, 66); the chapel standing near the "clift of the rock" which is said to have sheltered Moses from the glory of the Lord, while the mosque covers a cave in which tradition affirms that he lived during his sojourn on the mount. Both are built of red granite, from the ruins of a former edifice which is said to have been destroyed by the Arabs,—probably Justinian's chapel.

But perhaps the most remarkable of all the remains

at Jebel Músa are those of the excellent paths—or flights of stairs, with flat slabs of stone for steps—which the early settlers, with incredible energy, constructed to the summit of the mountain, and to their dwellings and gardens round about. Traces of no fewer than four of these paths, leading up the mountain-side from different points, are still to be seen, in various stages of ruin. Immense toil and industry, and no little skill, must have been bestowed on their construction. The best of them is the Sikket Syedná Músa, already mentioned, which, starting from St. Catharine's, rises some 2,350 feet to the highest peak of Jebel Músa, and is in a fair state of preservation wherever the fall of rocks or the rush of mountain-torrents have spared it. This is the well-known track by which travellers generally ascend. On the way up, there are two fine archways, at which pilgrims of old were confessed before passing on to the summit, "to obtain a benediction from the Lord and mercy from God our Saviour," repeating as they went the words of Psalm: xxiv. 3. In addition to these monkish paths, there is a broad camel-road, the work of the late 'Abbas Pasha, which winds in tremendous zigzags up the south-east shoulder of the mountain, to within about 800 feet of the summit.

The legends of St. Catharine's monks are palpably worthless. Ever since the fourth century, monastic tradition in Sinai has been growing in extravagance and absurdity, and the legendary sites now shown have evidently been chosen for convenience rather than for truth. With characteristic effrontery, the holy fathers have grouped together in a preposterous

jumble, within easy reach of their own gates, the sites of many of the chief events of the Lawgiving and the Exodus. At the foot of the Rás Sufsáfeh they point out a natural hollow in a rock as the mould of the golden calf, and the small hill, Hárún, near at hand, as the spot on which the image was set up. In the same vicinity they show the place where the Tables of the Law were buried, and the scene of the destruction of Koran, Dathan, and Abiram ! On the summit of Jebel Músa are the "clift of the rock," and the cave of Moses ; lower down, the cave which is said to have sheltered Elijah, within the chapel dedicated to him. The scene of the proclamation of the Law is placed in Wády Seba'íyeh, to the south-east of Jebel Músa, on the side opposite to that of the calf-worship. Rephidim, with queer inconsistency, is placed in the same valley, within an hour's walk of the monastery ; and a yet bolder stroke of audacity identifies a rock in Wády el Lejá, on the western side of the mount, with that in Rephidim, which Moses struck to produce water for his thirsty tribes. The rock in question has some curious fissures and weather-markings, but another one just like it is seen in the same valley.

At FEIRAN, the ruins are chiefly those of the episcopal town of Pharan, and of the churches, chapels, monasteries, cells, and tombs connected with it. The old town stands at the junction of Wády 'Aleyát with Wády Feirán, about four miles north of Jebel Serbál and at the lower end of the present oasis. It was formerly surrounded by a wall seven feet thick, composed of stones, mud, and boulders, a large part of

which still remains. The principal monastery and church stood on a low hill called El Maharrad, in the space enclosed by this wall, and may have served as a place of retreat in times of danger. Both of them seem to have been partly rebuilt more than once, but are now in ruins. Their walls were built of flat stones and mud in their lower part, and completed with sun-dried bricks. The church, which stands east and west, seems to have been a somewhat handsome structure, plastered inside, and partly coloured red, and paved with flat stones and with tiles made in the country.

Within the city walls are the remains of a great many buildings, amongst which the Sinai Expedition found fragments of sandstone capitals, with crosses and other symbols carved on them. One of these contained the figure of a man in a tunic, with his arms stretched aloft, suggestive of the attitude of Moses during the battle of Rephidim.

Without the walls are numerous traces of small square houses ; also quantities of hermits' cells excavated in the rocks ; and, in a neighbouring bank of alluvium, the cemetery. Near by is a deserted village, perhaps at one time part of the city, as some of the houses are evidently very old ; but in many of them free use has been made of the ruins of the church and monastery, indicating that they are of more recent Arab construction. A few have subterranean chambers, now used as storehouses by the Bedawín. One carved slab over a doorway is divided into three compartments, each containing a figure with upraised hands, like the one mentioned above. It is an interesting fact that these figures should be found at

the spot which the early settlers identified with Rephidim.

A hill close by, called Jebel et Tahúneh, on the right bank of Wády Feirán, and about 720 feet high, is covered with remains of chapels, cells, and tombs. There are also two ruined churches, one about halfway up, and a larger one on the summit, turned at some later period into a mosque. Winding in steps up the hill-side, and passing the various buildings in its course, are the remains of an ancient way, formerly, no doubt, a *via sacra*, with stations for prayer at the smaller chapels, which were probably erected over the tombs of noted anchorites.

It is evident that, for some reason or other, Jebel et Tahúneh was at one time regarded with extraordinary reverence, and there are good grounds for believing that it was considered by the old settlers to be the "Gibeah" (hill) from which Moses watched the battle of Rephidim, and that the church on its summit was the oratory described by Antoninus Martyr as marking Moses's standpoint. Dean Stanley and others have chosen as Gibeah the Maharrad hill in the valley, on which the ruins stand; but here Moses would have been exposed and within reach of darts and arrows, and he could hardly have got to it through the thick of the fight, which probably began farther down the valley and did not extend above, this point. Jebel et Tahúneh, on the other hand, can be reached from a point much lower down in Wády Feirán: on its summit Moses would have been out of danger; he would have had a full view of the battle, and have been himself clearly seen against the sky by the com-

batants. Perhaps the Maharrad hill may with more probability be considered the site of the altar Jehovah-nissi (Ex. xvii. 15).

Besides the ruins above mentioned, there are the remains of a small monastery in Wády Feirán, about a mile above the city. At El Hesweh, two miles below Pharan, and again at some springs in Wády Aleyát, are traces of monastic buildings and gardens, offshoots of the parent establishment; and large numbers of tombs and anchorites' cells dot the hill-sides above and below the city. Some of the tombs are cut perpendicularly into the faces of "jorfs" or banks of alluvium, and consist of chambers about 13 feet long, 5 feet high, and from 2 to 3 feet wide, closed at their mouths with thick walls of stones and mud. Others are constructed above ground of flat stones without mortar, and contain two, four, or more "loculi" for the reception of bodies. The commonest form is that in which there are two chambers, one above the other; but in some cases there are as many as ten or fifteen in two or three stories. These chambers are usually a little smaller than those in the "jorfs." The buildings stand east and west, and the bodies were laid on their backs on the bare stones of the chambers, with feet to the east, and arms stretched at full length by the sides, and wrapped in winding-sheets of coarse woollen stuff or cloth of palm-fibre. It is curious that, from difference of opinion as to the proper mode of burial, or from some other cause, tombs of this class were never used by the monks at Jebel Músa.

Some traces of steps, and the remains of a house and of a few gardens exist on Jebel Serbál; but there

are no churches or chapels, and none of the cells and hermitages so common at Jebel Músa and Pharan. On the highest peak is a ruin, called by the Bedawín El Madhawwa, "the lighthouse," probably one of a system of watch-towers at which, according to Bedawín tradition, fires were formerly lighted, to give notice of the approach of enemies.

From the eastern shoulder of Serbál descends seaward one of the most remarkable of those deep, precipitous mountain-glens which are met with in the Sinai highlands. It is called Wády Sigillíyeh. A wilder or more secluded spot, or one so difficult of access, could hardly be conceived. It is now haunted only by the leopard and ibex, and very seldom visited, even by Arab hunters. But its absolute solitude, and the weird grandeur of its scenery, offered resistless attractions to the recluses of 1500 years ago. Several ruined monastic establishments, consisting of rock-hewn cells, rude houses, and gardens, are still to be seen, grouped round the water-springs far down in the gorge; and the wonderful road by which they were reached from Feirán, ascending and descending over the shoulder of Serbál, winding, often in steps, over the most dangerous precipices, or clinging to abrupt and treacherous hill-sides, is in many respects the most remarkable witness in the whole country to the energy and engineering skill of the early settlers.

At Tor, now the single port and village of the peninsula, there appears to have been at one time a considerable monastic establishment—a monastery, like those at Feirán and Jebel Músa, with cells, oratories, and paths scattered through the vicinity. Several

other small clusters of monastic ruins exist here and there, chiefly in the region round Jebel Músa; and at Wády Gharandel, sixty-three miles from Suez, the Sinai Expedition found some old burial-places, possibly connected with the Sarandela which Antoninus Martyr regarded as Elim. There are also remnants of ancient roads in various parts, probably built in the first place by the early Christian settlers, the chief of them being that by which Jebel Músa is approached through the Nagb Hawa, and the road over the Nagb Buderah, near Maghárah.

From these various remains we have abundant evidence that there was a large Christian population in the peninsula from at least the fourth to the seventh century, and that they bestowed considerable energy on its cultivation.

It may be interesting at this part of our subject to consider briefly what opinions were held by the old settlers as to the positions of the sacred sites. That they regarded Pharan as Rephidim is affirmed by the statement of Antoninus Martyr (borne out, as we have seen, by existing remains), as well as by Eusebius (circ. A.D. 300) and his translator St. Jerome, and by Cosmas Indicopleustes. On this point all critics are agreed. To Jebel Serbál, however, it is clear that they attached no importance. Laboured attempts have been made by more than one writer to prove that they took it for Mount Sinai: but the balance of plain evidence negatives this view. While, as we have seen, Jebel Músa and its adjacent hills and valleys were covered at an early date with monastic buildings and roads, and while Pharan and its neigh-

bourhood—notably the slopes of Jebel et Tahúneh, which evidently had some special sanctity—abounded with churches, chapels, and cells, on Mount Serbál itself, but four miles distant from Pharan, there are no remains of this class, though it is as well suited for them as Jebel Músa, Jebel et Tahúneh, and many other places in which they are found. It is impossible to resist the conviction that, if this mountain had ever been regarded as the Mount of the Law, it would have been covered similarly with monkish structures.

Eusebius and St. Jerome, who describe Pharan as being next to the Desert through which the children of Israel journeyed when they decamped from Sina, have been erroneously understood to refer to the city of Paran, and therefore to identify Serbál with Sina; but it is plain from the passage and the context, in spite of their vagueness, that the authors confound the city of Paran with the wilderness mentioned in Numbers (xii. 16), in ignorance of the utter want of connection between the two, and that they write from the Scripture narrative only, without local knowledge. The sole piece of direct historical testimony in favour of Jebel Serbál is that of Cosmas, who described "Mount Choreb, that is Sinai," as being six miles only from Pharan, a distance which agrees closely enough with that of Serbál from the same point. But his account is by no means clear, and it is opposed by the statements of Silvanus Ammonius, Nilus, Procopius, Antoninus Martyr, and Eutychius, all of whom plainly refer to Jebel Músa as Mount Sinai. It must be remembered also, as has been pointed out by the late Canon Williams, that Justinian's monastery was built

no more than twenty or twenty-five years after Cosmas's visit; and we can hardly believe that the emperor would have acquiesced knowingly in a fictitious site, or that the remembrance of the true Sinai could have been lost in so short an interval. Jebel Músa, moreover, had long before this been regarded with reverence, and was already inhabited by a large anchorite population, and covered with cells and hermitages. The tradition of Jebel Músa, therefore, was not originated, but only perpetuated, by the erection of Justinian's monastery.

Amongst many delusive arguments which have been advanced in favour of Cosmas's view, the chief are that Serbál was the seat of an ancient worship, traces of which are furnished by its name, by the character of the remains on its highest point (supposed to be connected with Baal-worship), and by the veneration with which the Bedawín regard it; and that the prevalence of Sinaitic inscriptions on and near the mountain gives proof that it was formerly an important place of pilgrimage, and considered to be the true Sinai. Misled by these and similar arguments, Ritter and other geographers have been induced to allow Serbál an early sanctity, dating from before the Exodus.

As regards the name Serbál, the real meaning and origin of which were given in the first chapter (p. 21), it has been variously said to be identical with that of the Indian god Shiva, and to be a corruption from *Ser Ba'al*, "Lord Baal," or *Serb Ba'al*, "Palm-grove of Baal." But Professor Palmer has shown that these derivations are philologically impossible. The argument from the remains on the summit similarly fails.

Though we learn from Antoninus Placentinus and other early writers that, before the time of Islam, the peninsula was a principal seat of the idolatrous worship of the Arabians, the ruins in question belong to a comparatively modern building, in which mortar was used, while there is a marked absence of any of those primitive structures which we have already described. Thirdly, it is pure assumption to assert that the modern Bedawin have any reverence for Serbál. On the contrary, they have no traditions about it, and do not sacrifice there, but on Jebel el Moneijáh, three miles away. Lastly, the argument from Sinaitic inscriptions carries no weight, both because they are not more abundant near Serbál than they are in many other parts of the country, and because the mountain itself is remarkably free from them. If this reasoning proved anything, it would be that Jebel el Moneijáh was the place of pilgrimage, for the inscriptions are much more plentiful on it than on Serbál. At the same time, it is impossible that the former mountain can ever have been seriously taken for Mount Sinai.

It seems, then, that, beyond Cosmas's unsupported statement, there is absolutely no evidence to show that Serbál has ever been held in more esteem than any other high mountain in the peninsula. On the other hand, we have very full proofs, both from history and ancient remains, of the early sanctity of Pharan and Jebel Músa.

How far the early monks were guided in their identifications of Pharan with Rephidim, and of Jebel Músa with Mount Sinai, by antecedent names and traditions, and how far any such names and traditions

were genuine at the time, we cannot say. Nothing but bare conjectures could be hazarded on these points, and any such conjectures should be stated with extreme caution.

It is unquestionable that the true sites of Mount Sinai and Rephidim lie somewhere in the peninsula, and that the body of Mosaic tradition which has hung over the country from at least the time of Diodorus Siculus was in a general sense correctly localised. The position of Horeb was known to the Israelites for many centuries after the Exodus (1 Kings xix. 8); and however much we may wonder that no Jew except Elijah (and perhaps St. Paul, Gal. i. 17; iv. 24, 25) is known to have visited it for some 1800 years, it seems impossible that the situation of a region so intimately connected with the birth of the Jewish religion can have been lost, or even have become doubtful, especially when it is remembered that Eloth and Eziongeber were long in the possession of the Israelites, that there were always colonies of Jews in Egypt after the Captivity, and that a highway connecting Egypt with Eloth ran through the peninsula.

But there is no satisfactory proof that original names and traditions were faithfully preserved in *detail* throughout the long period—from the time of Moses till that of the first Christian settlement—during which, beyond the mention of Elijah's flight to Horeb, and one or two brief notices by pagan writers, the peninsula has, strictly speaking, no history. We have already shown how few and obscure are the traces of Biblical names and traditions now extant in the country, and how seldom any trust can be placed in

individual native legends of the Exodus as applied to particular spots, whatever may be their value as a collected whole. What evidence is there that matters in this respect were any better 1600 years ago?

It even seems possible that the old Saracens, if they did supply names or traditions to the first settlers, may have adapted them to the too evident wishes of their listeners, as modern Bedawín so often do with inexperienced inquirers; or, on the other hand, that the monks themselves may have been in some cases the real godfathers of the holy places, and may have localized the traditions, following their own convenience in the choice of sites, and perhaps also, to a certain extent, carrying the inhabitants along with them, and inducing them to let the Scripture names be affixed to their hills and valleys. It must nevertheless be urged in favour of the antiquity and genuine origin of the native legends of the Exodus that they, for the most part, differ or are separate from the present monkish fables, and that the independence of their source has been maintained by Professor Palmer, certainly the best living authority on the subject.

Whether, then, the early settlers, in their identifications of Jebel Músa with Sinai, and of Feirán with Rephidim, were fortified or not by local traditions, either genuine or corrupted, there is no evidence to prove; but we shall show hereafter, on independent grounds, that those identifications, however arrived at, were most probably correct.

CHAPTER VI.

ON THE TOPOGRAPHY AND OTHER CIRCUMSTANCES
OF THE EXODUS.

THE determination of the true position of Mount Sinai, and of the other places named in Scripture in connection with the Exodus, has always been one of the vexed and most difficult problems in sacred geography. A vast amount of literature has been devoted to the subject. Nearly every theory and system of topography that ingenuity could devise has at some time or other been brought forward, and, as a natural consequence of so much rival advocacy, the question was at length brought into a state of utter confusion, in which it was next to impossible to get at the exact facts of the case. Latterly, however, the task of elucidation has been rendered easier. The operations connected with the Suez Canal and the labours of the Sinai Expedition, have made us better acquainted than before with the whole region of the Exodus up to Sinai, and have furnished a body of scientific facts and exact information of the highest value. The subject has thus been rescued from the cloud of inaccuracy which had gathered round it during many years of controversy, and we at length

have materials for a fair discussion of the chief points at issue.

It is plain that the first step in any attempt to trace the topography of the Exodus up to Sinai must be to ascertain the locality from which the Israelites set out, and the first direction of their march; the place at which they crossed the Red Sea must then be approximately fixed upon; we may next consider what mountain, within certain limits of distance, best fulfils all the required conditions as regards the Mount of the Law; and, lastly, we may try to identify, as far as possible, the various halting-places of the Israelites on their journey from the Red Sea to Mount Sinai.

FROM GOSHEN TO THE PASSAGE OF THE RED SEA.

GOSHEN.—The situation of the land of Goshen (Gen. xlv. 10), otherwise the land of Rameses (Gen. xlvii. 11), from which the Exodus took place, is pretty closely defined by several considerations. According to Genesis (xlv. 28 to xlvii. 6), it appears that Goshen was part of Egypt, and lay on the eastern frontier, between Pharaoh's capital and Palestine, and that it was the first Egyptian province reached by Jacob on his way from Beersheba. It seems to have been not far from the capital of the Pharaoh of the Exodus (most probably Menephtah, of the nineteenth dynasty, son and successor of Rameses II.), which some authorities place at San or Tanis; though Birch, Ebers, and other Egyptologists, as well as the Muslims, believe that it was at Memphis, near modern Cairo. In

great part, at least, Goshen must have been a rich pastoral country, fit for flocks and herds, and therefore not the flooded land of the Nile Delta. It was also "the best of the land," and Pharaoh's cattle were kept there. It was apparently, though subject to the Pharaohs, a distinct province, with little or no Egyptian population; for the Israelites, while resident in Goshen, seem to have been virtually separated from the bulk of the Egyptians (Exod. viii. 22; ix. 26), to whom their shepherd calling was "an abomination" (Gen. xlv. 34), or at least to have vastly outstripped them in numbers and power. The LXX. and the Coptic version add to the Goshen of the text particulars which show that it was in the region of the eastern Delta, towards Arabia, and formed part of the "Arabian Egypt" of Herodotus, or of that "Egyptian Arabia" which Strabo describes as lying between the Nile and the Arabian Gulf, with Pelusium at its north extremity.

Goshen must, however, have been very near to the Nile land. The chief incidents in the life of the Israelites in Goshen, as Sir G. Airy has observed, took place "in close proximity to the river whose waters were red as blood, and to the lands which exhibited phenomena peculiar to vast alluvial tracts." The Hebrews, moreover, practised agriculture and irrigation (Deut. xi. 10), ate largely of fish, and enjoyed the fruits and vegetables of a fertile soil (Numb. xi. 5; xx. 5).

All these considerations show that the land of Goshen was an eastern frontier province of Lower Egypt, and comprised the champaign country bor-

dering on the eastern extreme of the Nile Delta ; and that it was partly cultivated by means of irrigation from the Nile or one of its canals, and partly dry



land fitted for pasture. Authorities are not agreed as to its exact limits, the chief point of difference being whether its boundary on the west and north-west was the Pelusiac or the Tanitic arm of the Nile. Dr. Ebers argues for the latter, and he includes

amongst the ancient towns of Goshen, San or Tanis, Phacusa, Bubastis (now Zagazig), Heliopolis near Cairo, Tel el Yehud, and Belbeis, besides the two treasure-cities or fortress-cities, Pithom, and Raamses or Rameses, on which the Israelites were employed (Exod. i. 11). Eastward, Goshen probably extended to the lakes on the then isthmus, or to the edge of the Tih; southward, as far as Heliopolis on the west and the head of the Great Bitter Lake on the east, the boundary between those points having been the northern edge of the desert between Suez and Cairo, which is almost certainly identical with the wilderness of the Red Sea mentioned in Exodus. Goshen, thus defined, included the area which constitutes the modern province of Es Shurkiyeh, still "the best of the land" of Egypt, and the once fertile Wády Tumeylát, which extends from near Zagazig to Lake Timsah, and through which flowed the ancient Nile canal, believed to have been begun by Seti, continued by Rameses II. (the monarch who is generally regarded as the Pharaoh of Exod. i. 8, ii. 23), and ultimately (about B.C. 600) connected with the Great Bitter Lake by Necho II.

PITHOM.—Scholars entertain widely different opinions as to the positions of the two fortresses, Pakhatem-en-Garu, or Pithom,¹ and Paramessu, or Rameses. Dr. Birch and Canon Cook identify Pithom with Heroöpolis, and place it near the head of the Great Bitter Lake, not far from the spot (Mukfar, on

¹ Pithom, according to some, means the house or temple of Tum, the Sun-god of Heliopolis; others derive it from the name of Thmei, "Truth," the goddess who formed part of the prænomens of Rameses II.

the ancient canal in the eastern part of Wády Tumeylát) which has been chosen for Heroöpolis by Lepsius and others, and which is also indicated by the *Itinerarium Antonini*. Dr. Ebers and Sir G. Airy, however, guided by certain statements of Ptolemy and Strabo (which do not seem very decisive), place Heroöpolis near Suez. In the LXX. the Goshen to which Joseph went up to meet Jacob (Gen. xlv. 28, 29) is called the city of Heroönpolis in the land of Rameses, while the Coptic version gives Pithom as the meeting-place, thus confirming the supposed identity of Pithom with Heroöpolis. If the LXX. rightly fix the place of meeting at Heroöpolis, in which respect they are supported by Josephus, it certainly is most improbable that Heroöpolis could have been so far south as Suez, which is some fifty miles off the direct road from Beersheba to Goshen, along which we must suppose Jacob to have travelled. Further, the facts that ruins of old cities are abundant at and near the Mukfar site, while none such have been discovered about the site advocated for Heroöpolis near Suez, and that, as a site for Pithom, Mukfar accords well with the generally-received opinion that that fortress lay on or near the great frontier wall from Heliopolis to Pelusium, begun by Seti and finished by Rameses II., certainly lend strength to Dr. Birch's view of the case. On the other hand, Ebers, Airy, Lepsius, Rawlinson, and others have identified Pithom, on grounds of strong probability, with the Patumos of Herodotus, the Thoum of the Roman itinerary, which is fixed at or near Tel Abu Suleiman, or Tel Abbasiyeh, near the west end of Wády Tumeylát, and which

answers almost as well as Mukfar to the supposition that Pithom was a frontier fort.

RAMESES.—While the exact situation of Pithom is of little consequence in connection with the topography of the Exodus, that of Rameses, its fellow-fortress, is all important, from its having been the starting-point of the Israelites on their flight out of Egypt (Exod. xii. 37 ; Numb. xxxiii. 3, 5). Rameses was probably the chief town in the land of Rameses or Goshen. Like Pithom, it is generally supposed to have formed part of the line of defence on the eastern frontier. Its situation seems to have been not less than two, and not more than three days' journey from the edge of the Desert on the way to Palestine (Exod. v. 3 ; xii. 37 ; xiii. 20). It was doubtless well supplied with water, and surrounded by fertility. The Israelites, when the last great plague took place, were evidently collected there to celebrate the new national festival, in readiness for their flight, with flocks and herds, provisions and booty ; and it would seem to have been a separate town from that of Pharaoh's residence at the time of the earlier plagues. Beyond these conditions, we have nothing from Scripture to guide us in identifying it ; the name has disappeared from this part of Egypt, and the site is still a subject of controversy.

Until recently, most modern scholars placed Rameses at some point in the Wády Tumeylát. A few identified it with Heroöpolis, on the authority of the passage from the LXX. already quoted ; but the grounds appear insufficient, as the LXX. only states that Heroöpolis was a city in the land or province of

Rameses, without giving any precise indication of its position, or suggesting that it was the chief town of the province. Lepsius, followed by Ebers, places Rameses at Abu Kesheyb, close to, but not identical with, Mukfar (his Heroöpolis). The reasons which he gives are, (1) that the passage in the LXX. indicates that Rameses was in the neighbourhood of Heroöpolis; (2) that a monolithic group, representing Rameses II. between the gods Ra and Tum, which has been found in the ruins at Abu Kesheyb, suggests that that king was worshipped there, and that the town was built by him and named after him as its local god. Ebers also lays stress on the massive bricks, about 17 inches long and $10\frac{1}{2}$ inches wide and deep, made of mud mixed with cut straw, which have been found in the same ruins, as tangible witnesses to the truth of Exod. i. 13, 14. These reasons, however, are far from being conclusive, and they are opposed by the serious objection that Rameses, thus situated, would have been ten or twelve miles only, instead of two days' journey, from the edge of the Desert towards Palestine. The Astronomer Royal identifies Rameses with Heliopolis; Josephus places it at Latopolis (Old Cairo); the Muslims at Memphis; and Eusebius adopts Avaris, the city of the Shepherd Kings, supposed to be the same with Tanis.

Latterly, it has been asserted, in connection with an entirely new theory of the geography of the Exodus,¹ that Paramessu, or the city of Rameses, was the same with Zoan, which has long been

¹ See vol. "Egypt," of this series, pp. 134-5.

recognised as the later Greek Tanis, now San, and was apparently one of the favourite residences of Rameses II. But the theory in question, though ingenious and brilliant, has not been well received, and is far from being proven. It is also at variance with certain particulars in the history of the Exodus. Zoan, according to Ps. lxxviii. 12, 43, was the place in which Moses wrought his marvels, and where Pharaoh must have resided at the time; and there is an evident difficulty in allowing that the Rameses from which the Hebrews set out could have been that in which the earlier plagues were wrought. All the indications in the narrative point the other way, and impel us to separate Zoan from Rameses. To this it may be added, that, had Rameses been at Tanis, the Israelites could not have reached Palestine without crossing the Pelusiac branch of the Nile, but no mention is made in the narrative of a river having been crossed at any time. It is probable, nevertheless, that Pharaoh's final interview with Moses and Aaron (Exod. xii. 31) took place at Rameses, and that his court and army were there at the time of the last great plague.

The position which appears to correspond better than any other with all the conditions of the site of Rameses is some point on the old canal in the western part of Wády Tumeylát. This locality is advocated by Canon Cook in the "Speaker's Commentary," and by Mr. R. S. Poole in the "Dictionary of the Bible," the latter writer indicating a spot at or near Tel Abbasiyeh as the probable site—the same neighbourhood which other authorities have fixed upon for Pithom.

SUCCOTH.—The sites of Succoth and Etham, the first two stations of the Israelites after leaving Rameses, are of course closely dependent on that of the latter city. Succoth may have been an Egyptian word, but its meaning in Hebrew is “booths,” possibly leafy booths or green coverts, indicating that the Desert had not yet been reached. Airy identifies it with Scenæ Veteranorum; but Robinson puts it at Rejum el Khail, in the Desert, fifteen miles west of the Great Bitter Lake; and Ebers, at Thaubastum, on the east of Lake Timsah. If, however, Rameses was in the west part of Wády Tumeylát, Succoth would have been further east in the same valley, about one-half or one-third of the way to Etham.

ETHAM.—Of the station Etham we know that it was on the edge of the wilderness (Exod. xiii. 20; Numb. xxxiii. 6), most probably in the direction of Palestine from Rameses, and that it was in or near the locality which Moses had in view when he and Aaron asked Pharaoh's permission to take their people three days' journey into the Desert (Exod. v. 3). It seems also to have been the point at which the direction of the Israelites' march was changed from “the way of the land of the Philistines”¹—probably the road from Egypt to Southern Palestine

¹ The statement in Exod. xiii. 17, 18, probably refers by anticipation to the change of route described in Exod. xiv. 2. This, however, need not be insisted on. The “way of the land of the Philistines” may have led direct from Rameses towards Pelusium, leaving Wády Tumeylát and Lake Timsah to the south. The route of the Israelites along Wády Tumeylát would still, in this case, have *skirted* the wilderness of the Red Sea.

viâ Lake Timsah—to “the way of the wilderness of the Red Sea” (Exod. xiii. 17, 18, xiv. 2); and it was so situated that this change of route offered them no apparent way of egress from Egypt, but interposed a barrier which precluded their escape into the eastern wilderness (Exod. xiv. 3).¹ These conditions point very decidedly to some spot in the vicinity of Lake Timsah as the site of the station in Etham—for the following reasons. The bottom of the deeper parts of the Great Bitter Lake is about 25 feet below the mean level of the Gulf of Suez, and abounds with marine shells; and it is certain that in remote times the Bitter Lakes were filled with salt water by communication with the gulf.² This communication subsequently became broken by the gradual elevation of the neck of land eleven miles long which now separates the lakes from the head of the gulf—an interesting fulfilment of the prophecy in Isaiah xi. 15. Darius, about B.C. 500, restored the connection by cutting a canal through this isthmus, which, after a period of disuse, was reopened by Ptolemæus Philadelphus, about B.C. 250. Traces of Darius’s canal are still seen, in a very perfect state, though its bed has since risen above the level of high water in the gulf. If, as can hardly be doubted, there was a connection, at least tidal, between the lakes and the gulf at the time of the Exodus, the only routes eastward from Egypt which would have been ordinarily practicable for the march

¹ The correct rendering of the latter part of this verse seems to be “the wilderness is closed to them,” *i.e.*, the Bâdîet et Tîh.

² Remains of an ancient dry-dock have been discovered at the head of the Great Bitter Lake, close to the point where the Suez Canal enters it.

of hosts must have passed to the north of the Great Bitter Lake, crossing the belt of dry ground which, interrupted only by the Timsah and Ballah Lakes, extends between it and the Menzaleh Lakes; and the children of Israel must have been following one such route when at Etham they were directed to turn and encamp before Pihahiroth. It will at once be seen how clearly this circumstance, coupled with the statements in the text, indicates very approximately the position of the camp in Etham. Starting from Rameses—whether at Zoan or Tel Abbasiyeh matters little to this part of the inquiry, though the Abu Kesheyeb site is inadmissible—the Israelites in two or three stages would reach the edge of the wilderness in the vicinity of Lake Timsah, a distance of thirty-five miles from Tel Abbasiyeh, and the same from Tanis. There is no reason to suppose that the journey from Rameses to Etham was performed in precipitate haste. Stragglers had to be collected, and the march organized, operations which may very well have occupied a day or two: the people were in a fertile and well-watered district, and pursuit had not been begun. From Etham the route by the way of the land of the Philistines led north-eastward, past Pelusium, across the Tih desert; by turning south-eastward, the Israelites would approach the peninsula of Sinai; by turning southward, they would soon enter the wilderness of the Red Sea, on the west side of the Great Bitter Lake. Their course thus far allows us to suppose, either that Moses intended to march direct for Palestine, or that he had from the first decided on taking the people to the Sinaitic peninsula, in obedience to the precept in *Exod. iii. 12*. In

Pharaoh's mind it does not seem to have caused any suspicion of departure from the original proposal to go three days' journey to sacrifice in the wilderness. But when, in obedience to the Divine command, the march was suddenly directed southward, along the west side of the Great Bitter Lake, the idea of attempted escape at once suggested itself, and the news was carried to Pharaoh that the people fled. Well then might he exclaim, on hearing this, "They are entangled in the land, the wilderness is closed to them." With the Bitter Lakes on their left hand, precluding egress eastward, the desert of the Mokattam hills on their right, and certain pursuit in rear, no line of escape seemed open to them except to continue southward into the mountainous and interminable desert west of the Gulf of Suez, or to attempt the probably dangerous passage of the channel connecting the Bitter Lakes with the Gulf.

Tried by all these considerations, the position of the camp in Etham seems to be established with certainty and perfect consistency, as having been in the near neighbourhood of Lake Timsah (probably not far from the site of the modern Ismailia), or at least at some point between it and the head of the Great Bitter Lake ; and this identification confirms the view already expressed as to the most probable site of Rameses.

The Israelite camp in Etham appears, however, to have only been one point in a desert tract of that name. The itinerary in Numbers (xxxi. 8) describes the people as having marched three days in the wilderness of Etham, after crossing the Red Sea. In Ex. xv. 32, the same desert is called the wilderness of

Shur. Probably, therefore, the name appertained to the long border strip of desert immediately west of the Tih plateau, which extends southward from Pelusium across the Isthmus, and down the east shore of the Gulf of Suez. Along the northern part of this strip lay some of the border forts which opposed incursions into Egypt from the east, while the southern portion would be that part of the wilderness of Etham referred to in Numbers xxxiii. As the names Pithom and Etham have the same meaning, some scholars have taken them to refer to the same place, a view which is apparently favoured by the Coptic translation; but the text rather seems to refer to two different places, and it is plain, from the above, that the name Etham cannot be limited to a single spot. If, however, Dr. Birch's site of Pithom be correct, there can be no topographical difficulty in regarding Etham as the same as Pithom, and as having given its name to the desert in its vicinity. Some authorities extend the wilderness of Shur, so as to take in a large area of the Tih. There are sundry indications in Scripture that it lay east of, and close to Egypt (Gen. xxv. 18; 1 Sam. xv. 7, xxvii. 8).

PASSAGE OF THE RED SEA.—From Etham the Israelites were directed to march to "Pihahiroth, between Migdol and the sea, over against Baalzephon," and to encamp before it by the sea (Ex. xiv. 2). At this point they were subsequently threatened by Pharaoh and his host, and from hence the passage of the sea was effected on the night of the sixth day of their flight. Pihahiroth, Migdol, and Baalzephon are, therefore, so closely connected with

the place of crossing, that all may conveniently be considered together.

The character and scene of the Red Sea Passage, the greatest event which ancient history records, have, in all ages, been the subject of controversy, according to the variously proposed systems of topography, and the extent to which men have admitted or denied the operation of miraculous agency. Some, holding to the strict interpretation of such passages as, "The waters were a wall unto them on their right hand and their left" (Ex. xiv. 22), "The floods stood upright as an heap" (Ex. xv. 8), "He made the waters to stand as an heap" (Ps. lxxviii. 13), have inferred that the deep sea must have been literally parted asunder, and that through the chasm thus formed the Israelites passed, with a sheer wall of water on either side of them. By such, the scene of the passage has been fixed at 6, 12, 50, and even 60 miles below Suez, and the position of Rameses has been varied to meet the several theories as to the crossing place. The advocates of these views—apparently anxious to aggrandise the miracle to the utmost, and discarding from fair consideration the physical agency which Scripture expressly mentions as the direct means by which the passage was made practicable—have, however, overlooked or evaded the difficulty of explaining how the fugitives, with their flocks and herds, could have travelled over the sharp coral rocks and vast quantities of seaweed which cover the sea bottom at these points. The obvious difficulty also, that a short way below Suez the breadth of the sea becomes too great for the passage to have been effected within the

great for the passage to have been effected within the limits of time given in the narrative, without some preternatural acceleration of speed of which Scripture gives no hint or mention, has never been met satisfactorily. There is the yet greater difficulty that a wind strong enough to have produced upon deep water the extraordinary effect which is supposed would have been much too violent for any man or body of men to have stood up against it. Lastly, there is the impossible supposition that Pharaoh and his host would have been mad enough to rush to their doom in this fearful chasm.

Of late years, however, the theory of a deep-water passage has been practically abandoned. Modern critics prefer an intelligent interpretation, according to known natural laws, of the words of Exod. xiv. 21, 22, which lay stress upon the *east wind* as the direct natural agent by which the sea bottom was for the time made dry land. Adhering rigidly to their authority, and scrupulously limiting the miraculous agency to the extent which is intimated in the sacred writings, they claim that there was a harmony between the supernatural and natural in the Divine guidance of events; that, instead of any arrest or derangement, there was only a peculiar adaptation of natural laws to subserve the Divine purpose, and that the miracle really lay in the manner in which the operation of the wind was timed, and in the vehemence with which it was caused to blow, rather than in such a suspension of the law of gravity as would have been needed in order to produce a dry passage through the deep sea.

The theory, which dates from an early period, that the passage was in some sense tidal, miraculously aided by the agency of wind, has thus come to be very generally adopted; and the scene is usually placed near Suez, or at some point on the now dry neck of land, between the gulf and the Little Bitter Lake. To this vicinity, indeed—unless we go to the head of the Great Bitter Lake, which is inadmissible on any system of topography—it must of necessity be limited, if we are to choose a spot where the passage would not have been too deep for the necessary effect to have been produced by the agency of wind, or too wide for the vast body of Israelites, with their flocks and herds, to have crossed it in a few hours. It is interesting to note that both Cosmas Indicopleustes and Antoninus Martyr say that the passage was effected at Clysma (Suez).

The distance from Etham, as fixed near Lake Tim-sah, to this neck of land, which is not less than from forty to fifty miles, furnishes no argument against this conclusion. On the contrary, though the Bible does not mention any station between Etham and Pihahiroth, other conditions in the narrative urge us to the belief that those two points must have been separated by a greater interval than one day's march. Had Pihahiroth been within a day's march of Etham the passage of the sea might have been effected without interference: on no supposition of the site of Pharaoh's head-quarters could that monarch have overtaken the fugitives in so short a time. Moreover it appears certain that six days must have elapsed

between the start from Rameses and the passage of the sea. Dr. Beke has satisfactorily established this by the following arguments.¹ The days of unleavened bread were seven, beginning on the 15th and ending on the 21st day of the month. These were doubtless coincident with the days of flight. As, then, the start took place on the morning of the 15th, the passage of the sea must have been effected on the night of (preceding) the 21st, the people continuing to eat unleavened bread throughout the 21st on account only of their not having had time to leaven their bread. If no more than three days be allowed from Rameses to Pihahiroth, there would be the curious inconsistency that the people would have continued to eat unleavened bread for three days after the necessity for doing so had ceased. It is well known, moreover, that the Jews regard the 21st day of the month as the anniversary of the passage, and recite in their synagogues on that day the 15th chapter of Exodus.

Two, or perhaps three days may thus have been spent on the journey from Etham to Pihahiroth. Nor need we wonder that no intermediate halting-places are mentioned in the narrative. In those early hours of swift flight from Etham, rest would be taken only as absolutely needed ; and it is little likely that there was anything in the nature of a fixed halt worthy of record until the rendezvous at Pihahiroth had been reached.

¹ "Mount Sinai a Volcano ;" also *Athenæum*, March, 1874. The writer formerly opposed this view, but is now satisfied of its accuracy.

PIHAHIROTH, which, according to some, means a "bed of reeds," or "sedge," or "grassy places," according to others, the "mouth of holes or caverns," or the "opening into mountains," was apparently the name of some natural locality, not of a town or fort. It cannot be positively identified. It has been placed near the Persepolitan monument, at Ajrud, at Bír Suweis, and other spots in the neighbourhood of Suez. According to Sir G. Airy, it was the point at which the channel from the Bitter Lake entered the Red Sea, and was thus close to the site of modern Suez. Doubtless it was in this immediate vicinity. MIGDOL means a tower or fort, and is identified with Ajrud on probable grounds by Sir G. Airy and Canon Cook, though Tischendorf considered it the same with Jebel 'Atákah, a mountain a few miles south-west of Suez. BAALZEPHON, which, according to the narrative, was opposite to Migdol, probably faced Pihahiroth on the eastern shore. The meaning of the name is uncertain. Ebers puts Baalzephon at Jebel 'Atákah. Sir G. Airy regards it as the same with Heroöpolis, which he places on the eastern shore, near Suez. The late Rev. C. Forster also considered Baalzephon and Heroöpolis to be the same. The conditions of the narrative (Exod. xiv. 2, 9; Numb. xxxiii. 7) are apparently best met by placing Pihahiroth near the channel on the west side, at or about Bír Suweis; Baalzephon on the opposite shore; and Migdol at Ajrud. An encampment to the east of Bír Suweis would then literally be "before Pihahiroth, between Migdol and the sea, over against Baalzephon."

Let us now try to pass briefly in review the events

of that memorable night. On the evening of the 20th day of the month the Israelites, encamped on the west side of the channel (Exod. xiv. 9), near its mouth, are alarmed by the approach of Pharaoh's forces on the western plain. The time occupied by the march from Etham to Pihahiroth had been long enough for news of their flight to have been carried to the king, and for him, with his highly-disciplined troops, to have performed a rapid journey direct from Rameses to Pihahiroth, across the Mokattam desert or wilderness of the Red Sea. His force consisted of 600 chosen chariots, each drawn by two horses and carrying a charioteer and an armed soldier; besides a multitude of others, summoned from the frontier garrisons near at hand. There were also a full complement of officers and a body of horsemen or cavalry. Dismayed at the sight, and feeling utterly powerless to resist, the fugitives "cry out unto the Lord," and indulge in bitter reproaches against Moses. He, ever calm and self-possessed, appeases them by assurances of Divine help against their enemies. At the command of God to "go forward," the camp is struck, and hurried preparations are made for resuming the march; and, as the moon would not rise till near midnight, their proceedings and subsequent movements are hidden from the Egyptians by the darkness of early night. At the same time, Moses stretches out his hand over the sea; an "east" wind rises, and soon blows with great fury. The true direction of this wind was probably from a point to the north of east. The direct effect of such a wind

upon the water in the channel and in the lakes or tongue of sea to the northward would be inconsiderable. But its indirect influence on the level of the shallow water in the channel, already lowered by the ebbing tide, would before long be very marked. As is well known to observant men accustomed to navigate the Red Sea,¹ a north-easterly gale, on reaching Suez, would thence be drawn down between the high ranges which bound the gulf on either hand, in such a manner as to change its direction from north-east to north or even a little west of north. It would gather strength as it advanced, and by its action on an ebb tide would produce so great an outdraught of water from the upper part of the gulf that there would be an abnormally low tide; while, so long as the wind remained northerly and strong, the return of the usual flood-tide would, for a time at least, be prevented. In this way, it can be understood that, on the night we are considering, a good passage across the channel was soon laid bare and remained so for several hours. Across this the Israelites marched, with the waters of the gulf and of the Bitter Lakes forming on either side of them a "wall" or flank defence. Towards morning, when all have safely passed over, and long after the hour of low water, Pharaoh and his warriors arrive, and follow into the channel. But now, Moses again stretches out his hand over the sea (Exod. xiv. 26); a shift of wind to the southward, probably of a cyclonic nature, sud-

¹ I am indebted to Captain J. S. Murray, of the P. & O. S.S. "Nepaul," who has long been a close observer of the phenomena of the winds and tides in the Gulf of Suez, for much practical information bearing on this discussion.

denly takes place—such, at least, may be inferred from what followed, and from the wording of Exod. xv. 10—and the same agent which had been made instrumental in creating a passage for the Israelites is employed with tremendous effect for the destruction of their foes. The pent-up flood-tide, now freed from restraint, and urged on by the south gale, “returns to his strength,” and comes sweeping suddenly up the gulf, probably in a “bore” or tidal wave, with a fury and rapidity which surpass all the calculations of the Egyptians. Panic seizes them; their chariots drive heavily, and break in the bed of the channel; they turn, and attempt to flee. But it is too late. In a short time the king and all the flower of the Egyptian army are overwhelmed by the waters, and their dead bodies are cast upon the sea-shore.

Local traditions and names have preserved the memory of this great event, though, as usual, they are grotesque and discordant. Five or six miles down the east shore are the 'Ayún Músa, or springs of Moses, a group of springs supporting a pleasant oasis; opposite to them the Jebel 'Atákah, generally translated the Mount of Deliverance; and lower down on the east coast the Hot Bath of Pharaoh; while the Gulf itself at this point is called Pharaoh's Lake.¹

After the Red-Sea passage, and the destruction of their enemies, the children of Israel, free and triumphant, would naturally collect at the oasis above named, surrounding the springs of 'Ayún Músa. Here was doubtless their first camp in the Desert,

¹ It should be mentioned that the existence of a Pharaoh's island near 'Akabah suggests that the Gulf of 'Akabah has traditions of a similar kind.

and here they probably rested awhile, before setting out on their further journey. A small oratory existed at this spot as early as the sixth century.

RECAPITULATION.—To recapitulate the conclusions arrived at up to this point, it seems most likely that Rameses was in the west part of Wády Tumeylát, near Tel Abbasiyeh, Pithom at or near Mukfar, or else near Tel Abu Suleimán; Succoth in Wády Tumeylát; and Etham in the close neighbourhood of Lake Timsah; and that the passage of the Red Sea took place across the channel which then connected the Gulf of Suez tidally with the Bitter Lake; while the wilderness of the Red Sea lay to the west of the Lakes.

RIVAL THEORIES.—Within the last half-century two theories have been advanced, by which the whole system of the geography of the Exodus, as generally received, is rejected, and attempts are made to prove that the Red Sea referred to in the narrative was not the Gulf of Suez. The first of these, advocated by the late Dr. Beke, forty-four years ago, in his "*Origines Biblicæ*," maintained that the Mizraim of Scripture, in which the Israelites were in bondage, lay altogether to the east of the Isthmus of Suez, in the now desolate wilderness of the Tíh; that the sea crossed by the Israelites was the Gulf of 'Akabah; and that Mount Sinai was to be looked for in the Arabian Desert, east of 'Akabah. In a pamphlet called "Mount Sinai a Volcano," published by the same author in 1873, this theory was reproduced, with the addition, on which he staked his reputation, that the Mount of the Law was an extinct volcano east of

the Ghor. The enormous difficulty of transferring Mizraim from the Egypt of the Pharaohs to a more easterly region is at once evident. It could only be done in defiance of history and hieroglyphic monuments, and of the opinion of every scholar and comparative geographer who has ever studied the subject ; and it would require us to reproduce the phenomena and peculiarities of Egypt, including a second river Nile, in a region where there is neither vestige nor tradition of their existence, and which, as is certain from physical considerations, can never have supported a very large permanent population. On the other hand, Dr. Beke was met by the difficulty that if, as all scholars asserted, Mizraim was in Egypt, the distance from Rameses to the Gulf of 'Akabah would have been about 200 miles—one much too great to be reconciled with any possible supposition of the speed of the Israelites, and of the number of days occupied in the journey to the Red Sea. These considerations alone were disproof enough. The final blow to his own theories was, however, administered by Dr. Beke himself. In the winter of 1873 he set out, accompanied by a Mr. Milman, to look for a volcano east of the Ghor. On landing at 'Akabah, he heard that at a distance of a few miles there was a certain Jebel en Núr, or Mountain of Light, on which there were some Sinaitic inscriptions and sacrificial remains, and to which a tradition of Moses was said to be attached. This mountain having been visited, and ascended by Mr. Milman, Dr. Beke then and there discarded his volcano theory, adopted Jebel en Núr as the true Sinai, and returned to England to

proclaim his discovery. This hasty and ill-considered step proved fatal, involving him in yet greater inconsistencies and improbabilities than ever, and leading to a controversy in the *Times* and other papers, in which his peculiar theories and identifications were discussed and finally demolished.

The second theory, already referred to (p. 147), was started in 1874 by Dr. Brugsch-Bey, an Egyptologist of repute, and is more ingenious and credible than that of Dr. Beke. In this, the sea crossed by the Israelites is said to have been a part of the marshes on the Mediterranean shore near Mount Casius. The theory and its refutation have been sufficiently dealt with by Dr. Birch in the volume EGYPT of this series (pp. 133-135).

MOUNT SINAI, MIDIAN, AND HOREB.

PROBABLE POSITION OF MOUNT SINAI.—The place of the Red Sea passage having been approximately fixed, we may next consider the probable position of Mount Sinai. The first indication of its direction is that afforded by the statement in Numbers (xxxiii. 10) that the children of Israel again encamped by the shore of the Red Sea at the fifth subsequent stage of their journey. This necessarily assigns a southward course to their march, as they certainly cannot have retraced their steps northward to the Mediterranean, while the eastern coast of the peninsula was too distant to have been reached in five stages without some extraordinary precipitancy of speed for which we have no reason or authority. There is also a general agree-

ment of the natural features of this southerly region with those indicated in the narrative of the early stages of the march.

The next clue afforded us is that of distance. For our guide in this respect we must take the itinerary in Numbers xxxiii., which is said (ver. 2) to have been written by Moses, at "the commandment of the Lord." This catalogue of stations was evidently prepared with great precision and detail, and is universally admitted to be of high antiquity, and to have been written by one who was an actor in the scene. It includes three stations—namely, the encampment by the Red Sea, Dophkah, and Alush—which are omitted from the account in Exodus. In all, ten stages are shown to have been occupied in the march from the Red-Sea passage to Sinai; and although, as in the case of Etham and Pihahiroth, it does not follow that each stage recorded in Scripture must necessarily be limited to one day's march, the contrary inference is probably inadmissible, except in cases where there is good external evidence to support it. Ten marches, therefore, representing a probable distance of from about 150 to 170 miles from 'Ayún Músa, may fairly be assumed as a guide to the identification of Mount Sinai.

Thirdly, there is the evidence of tradition, to which, as a body, though it has no claim to infallibility, due weight must be assigned; and it is certain that tradition at least as ancient as the time of Josephus placed Mount Sinai in the peninsula. Nor is it likely that the site can have been lost in the interval between Elijah's visit and the time of Josephus,

especially as it was so near Eziongeber, which remained in the possession of the Jews long after the time of Elijah.

Taking all these facts into account, it seems impossible to dispute the inference that the Mount of the Law must be looked for at some point in the hill region between the Gulfs of Suez and 'Akabah.

LOCAL CONDITIONS.—The chief topographical conditions which the narrative appears to require in connection with the scene of the Law-giving are:—

1. A mountain, culminating in a well-marked peak or summit, and rising abruptly from its base, so that people might come near and stand beneath it (Exod. xix. 11; Deut. iv. 11) without losing sight of the summit (Exod. xx. 18), and might even touch it if permitted (Exod. xix. 12); also isolated, so far as to admit of bounds having been set about it (Exod. xix. 12).

2. A large open space before the Mount, on which the vast host¹ might not only assemble, but manœuvre freely, to the extent of coming near at one time (Exod. xix. 17), and at another removing afar off (Exod. xx. 18); and from every part of which the summit might be plainly seen.

3. Space enough in the above area and its close neighbourhood for the whole body to have encamped, not necessarily all in front of the Mount, but within a distance which would allow of their being easily summoned to take part in any solemn act.

¹ According to the Bible, two millions, at least. There were 600,000 men, *i.e.* males above twelve or fourteen years of age.

4. Acoustic properties peculiarly favourable for audible addresses to large multitudes ; and a site suitable for such addresses.

5. At the time of the Exodus, a fairly ample water-supply, and a brook descending out of the Mount (Deut. ix. 21). Also pasturage in the surrounding region sufficient to have maintained the Israelites' flocks and herds during the period of their stay—about a year.

RIVAL MOUNTAINS.—Five mountains within the limits of the peninsula, and more or less approximately within the distance from 'Ayún Músa already specified, have at different times been named as the true Mountain of the Law. These are, Jebel el 'Ejmeh, near the southern point of the Tíh escarpment ; Jebel Umm 'Alawí, about four miles to the east of Jebel Músa ; Jebel Zebír-Katharina, the central and highest eminence in the country ; Jebel Serbál ; and Jebel Músa-Sufsáfeh. Of the first two, it is enough to say that their claims, never strongly urged or supported, have broken down under the scrutiny of the Ordnance Surveyors, and that they fail in several of the necessary conditions ; while no Scriptural traditions seem to have been at any time attached to them. With respect to the third, Jebel Zebír-Katharina, the supposition, apparently dating from the fourteenth century, and since revived by Ruppell, that this mountain was the true Sinai, probably owed its origin to the statement of Josephus, founded on Jewish tradition, that Sinai was the highest mountain in the country. That Josephus's assertion was somewhat inexact is established by the

local features, which are such as to wholly preclude the possibility that this mountain can have been the immediate scene of the revelation of the Law. Nevertheless, the coincidence of the name Jebel Zebír, "the mountain on which God spake to Moses," with the fact that it is the dominant summit of the peninsula may be taken as an indication in favour of localising the true Sinai in its close vicinity, in the central hill-cluster which includes Jebel Músa, rather than in the lower mountain system of Jebel Serbál.

The real contest, then, of late years has lain between the respective advocates of Jebel Serbál and Jebel Músa-Sufsáfeh. Amongst the former are Burckhardt, Lepsius, Hogg, Bartlett, Forster, Stewart, and Ebers; amongst the latter, Russegger, Laborde, Wellsted, Schubert, Henniker, Robinson, Shaw, Pococke, Strauss, Dr. Wilson, Lord Lindsay, Stanley, Williams, Tyrwhitt, Ritter, the Astronomer-Royal, Holland, the Sinai Expedition, and Canon Cook. In order to show on which side the balance of evidence lies, it will be necessary to examine somewhat closely the features and facts peculiar to each locality.

JEBEL SERBÁL, though not so high as several eminences further inland, is without doubt, viewed as a whole, more grand and striking than any other mountain in the country. It culminates in a noble ridge, three miles long and about 6,500 feet above the sea, running nearly east and west, and towering far above the surrounding hills. This ridge is broken into ten or twelve peaks, varying, however, so little in altitude that no one of them stands prominent amongst its fellows; the highest point is 6,734 feet

JEBEL SERBÁL, FROM WÁDY 'ALEYÁT.



above the sea. On the south it falls away into a chaos of mountains and wild ravines, nearly inaccessible, and quite out of consideration in connection with the Law-giving. It is to the northern slope and aspect that the advocates of Serbál attach their arguments in its favour. Three narrow valleys or glens—Wády er Rimm, Wády 'Aleyát, and Wády 'Ajéleh, named in order from the east—descend rapidly on this northern side from the slopes of Serbál to Wády Feirán, about three miles distant. The intervals between them, as well as the limiting areas on either side, and that immediately north of Wády Feirán, are filled with congeries of rugged hills, affording no facilities for assembling or encampment. So far as mere standing ground is concerned, space enough for the requirements of the narrative is afforded in these valleys; but they are so steep and rugged, ravaged by torrents, and piled with enormous boulders heaped together in the wildest confusion, that no large bodies of people could well be assembled, still less manœuvred, upon them now; nor is it likely that they presented a very different character at the time of the Exodus.

There are, moreover, many other objections. The people, even thus stationed, would have been parted into separate groups by the intervening ranges. From Wády 'Ajéleh the mountain top cannot be seen at all, and it is visible from a few points only in Wády er Rimm. The general configuration is such that in no case could the summit be seen by persons standing immediately at the base of the mount. Nor can the lower slopes be said to fulfil the description of a

mount that might be touched, or readily circumscribed by bounds.

It follows that Serbál fails in the first three of the conditions above enumerated. The same is the case as regards the fourth condition. The fifth is only partly fulfilled, for, though water and pasturage are fairly plentiful in the vicinity of Serbál, there is no brook or trace of one descending from the mount, and the pasturage on the hill slopes is meagre, especially when compared with that of the higher districts; the attraction of Feirán has always lain in its palms and oasis, not in the abundance of its herbage.

To refer to arguments of other kinds, it was shown in the fifth chapter that, so far as tradition goes, no native legends are attached to Serbál, and that, excepting the single unsupported statement of Cosmas, there is an entire absence of evidence from early travellers or historians that Serbál has ever been regarded as the Mount of the Law; on the contrary, we have ample proof that, while Serbál itself has never enjoyed a special sanctity, Feirán only was revered by the early settlers as the supposed site of Rephidim. To the opinion that Feirán was Rephidim, Cosmas himself conformed. Yet his statement that Serbál was Mount Sinai involves the impossible admission that the distance from Rephidim to the Mount of the Law, a distinct stage of the journey (Exod. xix. 1, 2; Numb. xxxiii. 15), was no more than three or four miles, or actually less than in such a region would be taken up by the vast Israelite encampment. Amongst the many illusions

about Serbál which have been dispelled by the Ordnance Surveyors, one of the most preposterous was the statement of one advocate that the space between Wádies 'Aleyát and 'Ajéleh, in reality a chaos of wild mountains, was occupied by an open plain. It was asserted also, by the same advocate, that the name Wády 'Ajéleh contained a reminiscence of the molten calf (*Ejl*) set up by Aaron, but Professor Palmer has shown that the name simply means the valley of haste or quickness, because it affords a short road to Tor.

For the above reasons it is sufficiently clear that neither local features, nomenclature, nor traditions justify the belief that Jebel Serbál can have been the Mountain of the Law.

JEBEL MÚSA-SUFSÁFEH.—It remains to examine, fifthly, the claims of Jebel Músa, or, more strictly, Jebel Músa-Sufsáfeh. This consists of a lofty mountain mass or block, roughly oblong in shape, and about two miles long and a mile broad, the direction of its longer dimension being north-west and south-east. The summit, which has an average altitude of about 6,500 feet above the sea, or 1,500 feet above the adjacent wádies, is broken into numerous peaks and domes of syenitic granite, enclosed at the two ends by masses of superior height, that on the south-east rising into a single peak, 7,363 feet above the sea, while that at the north-west is divided into three or four massive bluffs, the highest of which has an altitude of 6,937 feet. The former is Jebel Músa proper (originally Jebel Moneijáh), though this name is often applied to the mountain as a whole; the

Rás Sufsáfeh, and joining the former at the north-east angle of the mountain, from which point Wády ed Deir turns north-eastward. The north-west side, or Rás Sufsáfeh, is faced by the large open plain or wády Er Ráhah, which, from its crest a mile and a half distant, slopes gently down to the foot of the mountain, here merging into Wádies el Lejá and Ed Deir. This plain is smooth and gravelly, and well covered with desert herbage, and the Rás Sufsáfeh is distinctly seen from its every point.

On the south-east face the lower slopes are less abrupt, and there is more than a mile of rough ground, with rocky hills and ravines, separating the cliffs of Jebel Músa proper from the bed of the neighbouring valley, Wády Seba'íyeh. Two low ridges here connect the mountain with adjacent ranges, dividing the basins of Wády ed Deir and Wády el Lejá, respectively, from that of Wády Seba'íyeh.

With these exceptions, Jebel Músa-Sufsáfeh is completely isolated.

Though the present monks of St. Catharine's, following a tradition which dates from an early period, attach no importance to the Rás Sufsáfeh, and regard only the peak of Jebel Músa proper as the true Mount of the Law, the local features are such as to preclude any connection between that peak and the proclamation of the Commandments to Israel. There is no suitable tract of standing-ground on the southern side of the mountain, and the peak itself is wholly invisible from the great plain of Er Ráhah on the north-west (which alone fulfils the requirements of the place of assemblage), being hidden from it by the



RÁS SUÍSFÁFEH, FROM THE PLAIN ER RÁHAH.

intervening heights of the Rás Sufsáfeh. Hence, the view, first propounded by Robinson, that the Rás Sufsáfeh and plain Er Ráhah must have formed the scene of the events described in Exod. xix., xx., xxxii., has of late come to be very generally adopted; and the impossibility of a southern site, as well as the merits of the northern one, have been finally demonstrated by the plans, photographs, and models brought home by the Sinai Expedition. The special sanctity of the Jebel Músa peak is not set aside by this hypothesis. That spot may very well have been associated by tradition, as its old name, Moneijáh (conference), and the existing native legends suggest, with the divine manifestations to Moses, at the Burning Bush, and on the subsequent occasions of the delivery of the Law and the instructions for the Tabernacle. It was doubtless revered simply as the spot where Moses saw the vision of God, without reference to any more general event; and this would sufficiently account for its early sanctity. But, considered as the scene of the announcement of the Decalogue to the assembled tribes, the south-eastern site not only fails in the most essential local features, but fades into absolute insignificance when its claims are compared with those of Er Ráhah and the Rás Sufsáfeh.

The actual plain of Er Ráhah is about 400 acres in extent, but this may be increased to 630 acres by including the neutral areas where it merges into Wádies ed Deir and El Lejá. There are also 150 acres more or less level on the lower slopes of the hills which border the plain, and 160 acres beyond its crest,

where the ground slopes away so gradually that the Rás Sufsáfeh is not lost to sight for some distance ; making a total of 940 acres of excellent standing-ground in front and in full view of the Rás Sufsáfeh, or more than enough, it need hardly be remarked, for the free movement of the hosts of Israel, taking the largest estimate of their number. There is also in the valleys within three miles of Rás Sufsáfeh ample space for the whole multitude to have encamped, most of them in sight of the mount.

From the foot of the plain the cliffs of Rás Sufsáfeh rise suddenly and steeply to a height of about 2,000 feet. Persons assembled here would literally stand beneath the mount, while at the crest of the plain, or beyond, they would be standing afar off, though still in full view of the summit. The complete isolation of the mountain on three sides, and its sheer ascent from the even ground, certainly conform in a marked manner to the description of a mount that might be touched, and about which bounds might be set or prescribed. To this it may be added that the Rás Sufsáfeh, the sloping plain, and the lofty granite ranges by which it is shut in, form between them a huge natural theatre, well adapted for seeing, and possessing remarkable acoustic properties.

It is evident from all these facts that the first four of the stated conditions are fully satisfied at Jebel Músa-Sufsáfeh. As regards the fifth, it may at least be said that ample proof has been adduced by the Ordnance Surveyors (who were the first to explore the whole region systematically) that the vicinity of Jebel Músa is better supplied with pasturage and

water than any other district in the country. The superior fertility of this neighbourhood, when contrasted with that of other parts, is indeed constantly referred to, directly or incidentally, in the detailed reports of the explorers. It must, nevertheless, be understood that, whatever may have been the state of the country in former times, there is nothing nowadays of what an European would call luxuriant vegetation. Yet there is even now enough herbage for the support of large flocks of goats and sheep ; also a fair abundance of perennial springs and streams, both on Jebel Músa itself and in the surrounding hills and valleys. One such stream, which trickles down the Wády Sh'reich, may very well be the remnant of that brook on which Moses strewed the dust of the golden calf.

It is nearly impossible to form any estimate of the numbers of goats, sheep, and cattle which the children of Israel took with them into the Desert ; but, as Major Wilson has suggested, the animals may have been fewer than is often supposed, since we find that at the end of the forty years' wandering they were all in the possession of Reuben, Gad, and the half-tribe of Manasseh. The amount of vegetation must always have depended on the amount of rainfall, which was probably somewhat greater and more regular at the time of the Exodus than it is now.

Passing from topographical details to the outward aspect of the scenery, we find that the latter, from its impressive grandeur, fully befits the great drama which is believed to have been enacted in this rugged region more than 3,000 years ago. The bold forms and outlines of the hills, their colossal proportions,

the spacious plain, widening as it slopes down to the Rás Sufsáfeh, which rises at the end like a huge rostrum to a height of 2,000 feet, the intense stillness and solitude, and the lovely tints, varying at each hour of the day, combine to produce an effect which, among all the wild and beautiful scenery of the peninsula, is certainly unequalled, if not unapproached. It would, indeed, be difficult to imagine any place in the world better fitted to have formed the theatre for that mighty assemblage to whom the Law was proclaimed, and for the tremendous sights and sounds which attended the manifestation of the Deity.

Though we cannot localize with certainty the minor incidents of the narrative, it is remarkable how well the details of the natural features suit them in several cases. The present Jebel Moneijáh, a low mountain at the head of Wády ed Deir, and visible from the whole of Er Ráhah, answers admirably, as Major Wilson has suggested, to the site on which the tabernacle was set up. It would have been "without the camp," and "afar off from" it; yet the people standing at their tent doors on the plain would be able to see Moses enter it (Exod. xxxiii. 7, 8); while the Wády ed Deir would afford room for the congregation to be "gathered together unto the door of the tabernacle" (Lev. viii. 4). The scene of the worship of the golden calf was placed by early tradition at the mouth of Wády Sh'reich—a much more likely spot than the hill, Hárún, which is now shown as the site. The latter cannot be seen from any distance; the former occupies a very prominent position beneath the Rás Sufsáfeh, and is visible from all parts of Er Ráhah, so

that the Israelites would have had the same facilities for joining in the false worship as they had previously had for witnessing the manifestations of the Almighty. From a point higher up in the same valley, Wády Sh'reich, a rude yet easy track climbs the western cliffs of the mountain. This path was formerly regarded as that which Moses was wont to use in his ascents and descents of Mount Sinai; and, from the striking coincidence of the local features with the particulars of that memorable descent with the Tables of the Testimony which is described in Exod. xxxii., it seems very probable that the old tradition was correct. Having descended by this path from the mountain top, Moses and his servant Joshua, threading their way amongst the enormous boulders of Wády Sh'reich, would hear the tumult round the calf long before they reached the plain, and would discuss its cause (vv. 17, 18). In the still, dry, desert air, the sounds of shouting and revelry would be distinctly audible far up the glen. Not till they arrived at the wády's mouth, where it sweeps sharply round the foot of Rás Sufsáfeh, and came nigh unto the camp (ver. 19), would they discern the true cause, and see the calf and the dancing; and then Moses, his anger waxing hot, notwithstanding that he had been told what to expect (ver. 8), would be exactly beneath the mount, in the very position for breaking the tables, as described in the narrative, and for strewing the powder of the calf on the neighbouring brook (vv. 19, 20). Lastly, if the secluded peak of Jebel Músa was really the place of conference, where Moses received the Law, then, the mountain basin, 700 feet below, at the

immediate foot of the final ascent to the peak itself, might very well have been the spot at which Aaron, Nadab, and Abihu, and the seventy elders of Israel, after having come thus far with Moses, were ordered to tarry while he went up into the cloud, and from which they saw (whatever the exact nature of this vision may have been) "the God of Israel, and under His feet as it were a paved work of sapphire stone, and as it were the body of heaven in clearness" (Exod. xxiv. 9-18).

Early tradition unquestionably supports the claims of Jebel Músa-Sufsáfeh. Josephus's indirect evidence in its favour has been already cited (p. 167); and, as was stated in chapter V. (p. 135), the accounts of Silvanus, Ammonius, and others plainly refer to this mountain; while the erection by Justinian of St. Catharine's monastery in Wády ed Deir, and of the church on the summit of Jebel Músa, afford good proof that there must at that time have been well-established traditions relating to the sites of the Burning Bush and the delivery of the Law. It has often been urged by the advocates of Serbál that the choice of Feirán as the seat of the first Christian bishopric disproves the early sanctity of Jebel Músa. This cannot, however, be admitted. The natural attractions of Feirán, the mildness of its winter climate—which to the early pilgrims from Egypt must have been in favourable contrast to the rigours of winter at Jebel Músa—and the circumstance that a city on a charming site already existed there, are quite enough, taken together with its general recognition as the site of Rephidim, to account for the preference that was given to Feirán. Having

once obtained priority, Feirán would not readily yield it.

Another incidental piece of evidence in favour of Jebel Músa, or rather as against Jebel Serbál, may here be cited. It appears from Exodus (iii. 12) that the mount of the Burning Bush was the same with the mount of the Law. But the former was a pasture-ground of the Midianites (Exod. iii. 1). To suppose, then, that Serbál was the mount of the Law would compel us to include it and Feirán in the Midianite pastures. Feirán, however—admitting, as nearly all critics are agreed, that it was the ancient Rephidim—was evidently a stronghold of the Amalekites; and the well-known jealousy of Arab tribes as to the rights of herbage forbids us to believe that Jethro's flocks were ever pastured in a district occupied by the Amalekites. Hence, Mount Sinai must be looked for in the region east of Serbál; that is, on the side towards the land of Midian.

MIDIAN.—Two geographical questions of some difficulty in connection with the mount of the Law may be considered here,—the position of Ancient Midian, and that of Horeb. From Genesis (xxv. 1, 6) we gather that the Midianites were descended from Midian, fourth son of Abraham by Keturah, who was sent to dwell in the “east country,” probably the region east of Wády el 'Arabah. They also appear to have been early engaged in the carrying-trade between Eastern Palestine and Egypt, and to have been intermixed with the kindred tribe of Ishmeelites; and it was by them that Joseph was bought from his brethren, and afterwards carried into Egypt (Gen.

xxxvii. 25-39). In Exodus (ii. 15-21), Midian is mentioned as the land to which Moses fled from the face of Pharaoh, and where he married Reuel's daughter Zipporah. At the time of the Exodus, the Midianite pastures appear to have included the "Mountain of God" (identical with the mount of the Law), to which Moses led Jethro's¹ flocks, and where he subsequently met Aaron when on his way from Jethro's place of residence to Egypt (Exod. iii. 1-12;² iv. 27). Later, we find the Midianites concerned with the Israelites in Moab, on the eastern border of Palestine, and yet later harassing them for several years in consort with the Amalekites (Judges vi. vii. viii.).

The difficulty of reconciling these and other notices with ordinary geographical suppositions is certainly a somewhat formidable one, and Dr. Beke chiefly relied on it to establish his peculiar theory of the position of Mount Sinai. Laborde, however, pointed out forty years ago that the Midianites must have occu-

¹ Jethro was not necessarily the same person as Reuel. The word rendered "father-in-law" in Exod. iii. 1, &c., signifies no more than a connection by marriage, and does not decide the relationship between Moses and Jethro. Most probably Jethro was Reuel's son, and therefore Moses's brother-in-law. There is no reason against this supposition. The Hobab (Sho'eib) who afterwards served as guide to the Israelites (Numb. x. 29; Judges i. 16, iv. 11) was probably a brother of Jethro.

² Here the author of the book of Exodus probably refers by anticipation to the sacred character which Mount Sinai was to acquire from the events narrated subsequently. It does not seem necessary to suppose, with some critics, that the expression "mount of God" implies that the spot had a previous sanctity amongst the heathen tribes of the Desert.

pied more than one district, in widely separated localities. Later, also, Miss Corboux (*Journal of Sacred Literature*, 1852) came to the conclusion that there must have been two tribes, or branches of one tribe, bearing the name of Midianites; and, with reference to this conclusion, Sir G. Airy has pointed out that, amongst many reasons in its favour, the most striking is the great difference in religious and moral rites which is indicated in the several notices of the Midianites.

However this may be, it is now conceded by nearly every student, as one of the best ascertained points of sacred geography, that Midian at one time included in its southern limits the country round the head of the Gulf of 'Akabah. Down the east coast it reached at least as far as Mukná or Mugna, the ancient city of Midian (the Modiana of Ptolemy), opposite to Dhahab on the Sinaitic shore. Captain Burton, who has quite lately returned from an exploration of this locality, reports the discovery of signs of an abundant former population,—ruins of stone-built towns, roads, aqueducts, forts, and artificial lakes; also mining-works, dams, furnaces, *scoriae*, and other traces of busy life in a land full of mineral wealth. How far Midian stretched down the west coast of the Gulf does not appear. Possibly the port of Sherm, near Rás Muhammed, may have been a Midianite settlement. It may even have been Jethro's residence. Many scholars have held that Jethro lived in the peninsula, and ancient geographers describe Sherm as abounding in palms and good water, and as possessing also a sanctuary and a

priesthood, from which it would seem to have had a very early sanctity.

The admission that the territory of Midian extended along the east coast of the peninsula is, however, enough to satisfy every condition in the narrative of the Exodus. Jethro's home was, in this case, probably on or near the coast,¹ and his pastures may very well have extended as far west as to include Jebel Músa. At that point Moses would have come to the "back side" of the desert, whether this means, as some commentators hold, the *western* limit of the district, or, as according to others, the side opposite to that from which he had set out. There, too, he would be on or close to the road between Egypt and almost any point on the east coast, so that his meeting with Aaron in the "Mount of God" would be perfectly explicable. The Mount of God would also have been readily accessible to Jethro when he came to visit Moses encamped in Rephidim (Exod. xix. 1-5).

HOREB.—The question of the geographical position of the HOREB of Scripture is mainly limited to the consideration whether that name was applied to any particular spot or mountain, or to a tract of country. Horeb is first mentioned in Exod. iii. 1, when Moses, having reached the back side of the Desert, "came to the

¹ There is, however, no impossibility in admitting, with some commentators, that the home of Reuel and Jethro may have been on the east side of the Gulf; communication between the two coasts was always frequent, and there certainly are traditions bearing on the Exodus in the neighbourhood of Mukná, such as a cave of Sho'eib (Hobab), and a praying-place and well of Moses. But various considerations render this view improbable; these are suggested by Exod. iv. 19, 20; xix. 15.

mountain of God, even to Horeb," or, more correctly, "towards Horeb." In Exod. xvii. 6, Horeb is associated with Rephidim. But in Exod. xxxiii. 6, we read of "Mount Horeb" as the same with Mount Sinai; and again, in 1 Kings xix. 8, Elijah "came to Horeb, the Mount of God." In thirteen other passages in the Old Testament we find no mention of a Mount Horeb, but the phrases "from," "at," or "in" Horeb only are used, in a sense indicating that the Israelites were in Horeb while encamped at Sinai. Consequently, in two only out of seventeen passages is Horeb explicitly named as a mountain, while a comparison of Exod. xvii. 6 with Exod. xix. 2, and other notices, shows that Rephidim and the Mount of the Law were separated by at least one stage of the journey. This preponderance of testimony suggests the conclusion that Horeb was a district name, and that the names Sinai, Mount Sinai, the mount of God, referred especially to the Mount of the Law-giving, which was included in Horeb.

Another difficulty, however, here arises, from the statement in Exod. xviii. 5, relating to Jethro's visit to Moses after the battle with Amalek; "And Jethro, Moses's father-in-law, came with his sons and his wife unto Moses into the wilderness, where he encamped at the Mount of God." The readiest inferences from this verse and the context are, that Moses was in Rephidim when Jethro reached him, and that both were encamped at the Mount of God, which would thus be in Rephidim. One solution of this difficulty has been sought in the supposition, originating with Josephus, that Jethro's visit did not take place till

after Moses's arrival at Sinai,¹—a view apparently countenanced by the use of the perfect-past in our translation of Exod. xix. 2, which serves to throw back journey there narrated to an indefinite period, and by the probability that the judicial arrangements described in Exod. xviii. would not have been made till the end of the journey to Sinai. It certainly seems unlikely that the few days, probably not a week, spent in Rephidim would suffice for such an organization. Secondly, the late Canon Williams suggested that the Mount of God here referred to may have been some eminence at Rephidim on which Moses erected the altar of Jehovah-nissi (Exod. xviii. 15) ; it cannot well have been Mount Serbál, as argued by Ritter, because there is no evidence that Serbál was ever held sacred. Thirdly, it does not seem necessary to infer from the wording of Exod. xviii. 5, that Jethro encamped with the Israelites. The usual camping-place of his tribe in this region was doubtless at or near Jebel Músa, and well known to him ; here, in Midianite rather than in Amalekite territory, he would naturally pitch his camp, advancing afterwards to Rephidim to visit Moses as a guest.

On the whole, the course which seems to do least violence to the text is to infer that Horeb was a district name, comprising the interior granitic hill region of the peninsula, and that, in the two cases which discountenance this view, the sacred writer

¹ Josephus also, throughout his history, substitutes Sinai for Horeb, thus encouraging a belief that they were not separate places ; but he carefully omits the statement that the rock of Rephidim was in Horeb.

only merged the smaller in the larger term. The meaning of Horeb, which is "land made dry by draining off the water," is certainly suggestive of a district rather than of any particular mountain; and its applicability to the central hill-region is peculiarly striking. In many parts now perfectly dry, the traveller comes upon those extensive banks of alluvial gravel, called "jorfs," which were described in chapter II. (pp. 27, 28), and which, whether deposited by ancient lakes, streams, or glaciers, or by the action of floods (a point on which geologists differ), nevertheless constantly present to the eye the spectacle of land made dry by draining off the water.

Enough having now been said to establish beyond reasonable doubt that the Rás Sufsáfeh and plain of Er Ráhah were the scene of the announcement of the Law to Israel, we proceed to consider the third section of the subject, namely, the particulars of the march from 'Ayún Músa.

ROUTE FROM THE RED SEA TO MOUNT SINAI.

In discussing the journey of the Israelites from the Red Sea to Sinai, it is important to bear in mind the following points :—

1. The stations enumerated in Exodus and Numbers were doubtless those of Moses's head-quarters, and may be accepted as marking each day's advance on the march, except where the narrative suggests or indicates otherwise.

2. The order of march was not yet organized, and there was probably but little routine or discipline amongst the host, and no regularity in pitching and

striking the camp. Stragglers were doubtless numerous, and it would appear from many passages that at least a part of the host sometimes travelled by night (Exod. xiii. 21; Numb. xiv. 14; Deut. i. 33; Neh. ix. 12, 19; Ps. lxxviii. 14).

3. Parallel or converging routes may have been followed by different sections in proceeding from point to point.

4. The existing water-springs may in the main be taken as a key to the topography; for, though the supply of water has doubtless decreased since the Exodus, the sources are not likely to have changed. Insignificant springs may, nevertheless, have failed in the long interval since the Exodus.

MARAH.—On decamping from 'Ayún Músa, and advancing southward in the direction of Sinai, the Israelites must have traversed for the first fifty miles the terraced littoral plain, about twelve miles wide, which is bounded on the west by the sea, and on the east by the mural cliffs of Jebel er Ráhah, from which this part of the wilderness possibly derived its name, Shur or "wall." Of their journey along this desert plain as far as Marah, which was reached on the third day, the narrative simply says that "they went three days in the wilderness, and found no water" (Exod. xv. 22). This laconic notice nevertheless precisely hits off the chief features of the region at the present day. The dead and barren plain, decked only with a few wretched herbs and shrubs, the blackened, sand-scored pebbles, the scorching sun, the dismal monotony, and the total absence of water, except such as is afforded by half-a-dozen brackish water-holes in an area of 1,000 square miles, convey

to the traveller's mind but too vividly the impression of a waterless desert. On reaching Marah, the people found that its water was so bitter or salt as to be unfit to drink. What the "tree" may have been with which Moses sweetened it, no one can say. The narrative does not describe it, and the Bedawín do not know of any such specific. To the impossibility that it can have been the *ghárkad* berry reference has been already made (p. 40); these berries have no sweetening properties, and the Israelites passed too early in the year for them.

Travellers have variously placed Marah at Abu Suweirah, on the coast, about 28 miles from 'Ayún Músa, at Wády Wardán (30 miles), Wády 'Amárah (44 miles), 'Ain Hawwárah (47 miles), and Wády Gharandel (56 miles). At or near all of these points there are springs of varying quality, those in Wády Gharandel being the best and most plentiful. The only existing trace of the name Marah is at Wády Mereira, the "Valley of Bitter Water;" here, at the 29th mile, the writer discovered, in 1869, a brackish water-hole. But all attempts to fix the site with certainty have thus far failed. It is possible that Moses chose the route along the coast in preference to the somewhat shorter one further inland, partly because it was easier, partly for the sake of fishing and better pasturage; and perhaps a closer examination of this route may yet lead to the discovery of the real Marah. More probably, however, the wells or well, which would seem from the narrative to have been unimportant, have been filled up since the Exodus, owing to changes in the surface of the Desert.

ELIM.—The site of the next station, Elim, is much less doubtful, and may be fixed with strong probability at Wády Gharandel, fifty-four miles from 'Ayun Músa. At Elim there were twelve wells, literally "springs," of water, and seventy palm-trees (Exod. xv. 27)—a description indicative of just such an oasis as now exists in Wády Gharandel, where there is a liberal growth of wild palms, tamarisks, and other desert vegetation, and a perennial stream of fair water, which in spring, the season of the Israelites' journey, forms a small brook in places, with pools and bulrushes, the haunt of numerous waterfowl and other birds. Those writers who place Marah at 'Ain Hawwárah, but seven miles short of Wády Gharandel, have been driven to look for Elim at some point beyond it, and have accordingly fixed on Wády Useit, six miles further on, where there are two or three brackish springs and clumps of palms; while those who pronounce Wády Gharandel to be Marah have placed Elim in Wády Taiyibeh, nineteen miles beyond it. But this sacrifice of greater to smaller considerations appears to be unwarrantable. It is hardly possible to believe that so favoured and exceptional a spot as Wády Gharandel should not have been chosen for the camp of Elim, in which the Israelites spent a considerable time, probably about a month. Whatever route was taken, they could not have failed to enter this valley, as further progress along the shore is intercepted just below its mouth by the bluffs of Jebel Hammám Far'un, which compel travellers to turn inland; and Wády Useit, the only other opening, cannot be ascended from its mouth.

Wády Gharandel appears to have been regarded as Elim as early as the seventh century, for Antoninus's *Sarandela* can refer to no other place. The tradition, favoured by Shaw, Pococke, Seetzen, and others, that Elim was at or near Tor is, on every ground, manifestly wrong. It apparently sprang from the existence of palms and water at the latter place, and from Cosmas's statement that Elim was at Raithou, a name since held by Tor. But the context in Cosmas's account shows plainly that the Raithou of his day must have been at or near Wády Gharandel, since he takes the Israelites from Elim through Wády Mukatteb to Rephidim (Feirán).

ENCAMPMENT BY THE RED SEA.—After removing from Elim, the people encamped by the Red Sea (Numb. xxxiii. 10). The local topography serves to fix this station with little or no doubt. It would be absurd to suppose that they descended Wády Gharandel to the sea, but a mile or two distant, made a fresh camp there, and afterwards retraced their steps, as they must have done. Allowing them, then, to have advanced in an intelligible manner towards Sinai, their obvious and indeed only direct way to reach the sea was to pass over the desert uplands at the back of Jebel Hammám Far'ún, and then descend by the first practicable path—that along Wády Shebeikeh and Wády Taiyibeh—to the coast. Accordingly, nearly every student of the subject agrees in placing this encampment in the lower end of Wády Taiyibeh, or at some point in the littoral plain of El Murkheiyeh beyond it. Most probably, Moses's head-quarters were at the springs and palms in Wády Taiyibeh, a

mile from the shore. This would be about nineteen miles from Wády Gharandel, a somewhat long stage ; but there is nothing unlikely in the supposition that, after the long rest at Elim, a march of this length would be made in order to reach a suitable encampment. The water of the springs, though now very brackish, was probably of better quality at the time of the Exodus.

FURTHER ROUTE.—From the camp in Wády Taiyibeh, the Israelites might have approached Jebel Músa by either of two principal routes, each of which has its advocates : one of the two certainly must have been taken. The first, called the COAST route, follows the shore for several miles, and then ascends to the interior highlands by the Seih Sidreh, or Wády Feirán. The other or NORTHERN route reascends Wády Taiyibeh to its head, and then pursues a course direct inland, after which it turns south-eastward across the west end of the Debbet er Ramleh, and, traversing a succession of lateral valleys, rejoins the coast road twenty-four miles short of Jebel Músa : this route is about nineteen miles shorter than the other. It would be tedious to enter into precise details of the merits and demerits of these rival roads ; and it must suffice here to say that the members of the Sinai Expedition, after having examined and surveyed every possible approach to Jebel Músa, are all agreed as to the superior claims of the COAST route. The chief points which governed their decision are, (1) that the descent to the sea by Wády Taiyibeh is in itself nearly decisive of the direction taken, it being difficult to believe that Moses, who knew the country well, would have gone

down that valley had he intended to follow the northern route, which branches off at its head; (2) that the topographical features, as well as the water-supply, on the coast route accord better with the indications in the narrative, and that this line is more practicable than the other for the journey of such a host as that of Israel, with their flocks and herds and the rough bullock-waggons which they are believed to have taken with them from Egypt (Numb. vii.): the natural advantages of this road, which for a great part of the distance passes up Wády Feirán, seem to have always rendered it the main highway through the peninsula. To these it may be added that the adoption of the northern route would involve the exclusion of Feirán, the identification of which place with Rephidim dates from a very early period, and is admitted by nearly every critic.

WILDERNESS OF SIN.—At a distance of ten miles beyond Wády Taiyibeh, the coast route enters the littoral plain El Markhá, a well-marked, gravelly tract, about fourteen miles long and three miles broad. This plain probably corresponds with the Wilderness of Sin, which the Israelites reached about the thirty-seventh day after their passage through the Red Sea. Here they probably stayed a few days. Nothing is said of want of water, but, for the first time since leaving Egypt (six weeks previously), they complained bitterly of hunger, and were supplied with quails and manna. The manna, which evidently was in the nature of vegetable food, has not been certainly identified with any known substance. The view, favoured by tradition at least as old as the time of Josephus,

that it was the *mun* of the tarfah-tree (p. 39), has been hotly discussed. The chief arguments for this identity are, the name of the present natural product, the locality in which it is found, and perhaps some slight resemblance in its colour, taste, and shape to the manna of Scripture. There are, however, some noteworthy differences ; and even if the identity were granted, it would be impossible to admit, with some critics, that the supply of this "bread," which was gathered constantly, if not daily, the Sabbaths excepted, by the host of Israel for forty years (Ex. xvi. ; Josh. v. 12), can have been wholly natural. On no supposition of the former fertility of Arabia Petræa can the gum which exudes from the tarfah-tree in incredibly small quantities have sufficed for that immense and probably continual supply which is indicated in Scripture, and *one day* of which was 3,000 times as great as the present *annual* yield of the whole peninsula. There is further the fatal objection that it is produced only in the summer months. The supply of quails may have been connected with a flight of those birds, or more probably of cranes, in migration, its miraculous character consisting in the coincidence of the time of arrival with the previous announcement. Immense flights both of quails and cranes, migrating northward, are not unfrequently seen in this region in spring.

The Israelite encampment was probably near the northern end of the plain—a place well suited for it, and not ill-supplied with such rude herbage as the Desert affords. Two springs are near ; in one, named 'Ain Dhafary, the water is sweet ; but the other, 'Ain

Markhá, yields now a very brackish supply. 'Ain Dhafary is about fourteen miles from Wády Taiyibeh.

DOPHKAH AND ALUSH.—Two stations, Dophkah and Alush, intervened between the Wilderness of Sin and Rephidim (Numb. xxxiii. 12, 13). The site of the water miracle at the latter place may be fixed with tolerable certainty in Wády Feirán, below the oasis, at or near the spot (Hesy el Khattátín) which Arab tradition associates with the miracle (p. 78). From El Markhá the modern traveller may reach Wády Feirán by any one of three routes. One, the shortest, turns inland just beyond 'Ain Dhafary, and rises over a difficult ridge, the Nagb Buderah, which has only been made passable in modern times, and certainly cannot have been attempted by the Israelites. The next leaves the plain seven miles further on, ascends Wády Sidreh and Wády Mukatteb, passing close to Maghárah, and reaches Wády Feirán seventeen miles above its mouth. The third, which is the easiest and longest, follows the coast to the mouth of Wády Feirán, twenty-one miles beyond 'Ain Dhafary, and then ascends that valley, reaching Hesy el Khattátín in a distance of forty-nine miles from 'Ain Dhafary.¹ Probably the route up Wády Feirán was that taken by the main body, with the flocks, herds, and waggons; but sections may have gone up Wády Sidreh, thus saving eleven miles of distance. The argument which has been advanced against the latter supposition, that Moses would have avoided the Egyptian mines,

¹ The theory advocated by some writers, that Moses took the Israelites down the plain of El Gá'ah, and thence by way of Wády Hebrán to Jebel Músa, is totally unworthy of comment.

for fear of a conflict with the military guard there, goes for very little. It is not likely that Maghárah was occupied at the time (p. 92); and even had it been occupied, its garrison could not have offered a serious obstacle to the advance of the great body of Israelites.¹ Dophkah and Alush cannot be identified with certainty; and this part of the route is now waterless. Dr. Ebers recognises a connection between Mafka or Tmafka—the name of the mining region (p. 86)—and Dophkhah, a conjecture which is not improbable, and which fits in very well with the view here taken of the topography of the route. Both Dophkah and Alush seem to have been unimportant stations—probably mere resting-places—at which nothing worthy of note occurred. But, as the Israelites marched from Alush to Rephidim, rising from the sea plain, and threading the recesses of the mountains, their eyes must have rested on the same beautiful scenery which so enchants the modern traveller. To them, after the tameness of Egyptian landscapes, there must have been something wonderful in the aspect of these wild and rugged solitudes, in the bold forms of the hills, the masses of colour, and the glorious lights on hill, valley, and crag.

If there was a deficiency of springs in the district at the time of the Exodus, this part of the march was doubtless hurried. Enough water for absolute needs was perhaps carried in skins, or in the bullock-carts ;

¹ The same reasons hold good as against similar objections to the northern route, which passes the mines of Sarábít el Khádim. It is on other grounds than this that we favour the coast road.

but on reaching Rephidim, where it would seem that there had been an expectation of finding water, the thirst of the people, after three days of comparative abstinence, caused them to break out in angry chidings with Moses, and apparently to threaten his life. Then followed the miraculous production of water from a rock, and the naming of the place, Massah, and Meribah (Exod. xvii. 1-7).

REPHIDIM was probably the name of a district, including the scene of the miracle, and at least the entire oasis of Wády Feirán beyond it. The reasons from history and tradition in favour of this identification, and some of the topographical circumstances of the battle with Amalek, were discussed in chapter V. Other arguments for and against it may be added here. Strategical and tactical considerations certainly support it. The indications in the narrative, as well as the statements of Josephus, attest that the Amalekites who contended against Israel in Rephidim were no mere handful of fighting men, but a large muster of the fierce and warlike tribes of the Desert, capable of sustaining an obstinate fight against Joshua's forces. The country of the Amalekites (Gen. xiv. 7) must have been that occupied by them in the time of Moses, for they had no existence in Abraham's time, since they were descended from his great grandson Amalek. Their territory is usually regarded as identical with the wilderness of Paran, which, from various notices in Scripture, seems to have comprised a large area of the Tíh, stretching from Wády el 'Arabah far west towards, if not close up to, Egypt; while in a north and south direction it apparently extended from Kadesh Barnea in the neighbourhood of Jebel

Magráh to within three days' march of Sinai (Gen. xxi. 14, 21; Numb. x. 12, 33, xiii. 3, 26, xiv. 25, 40, 45). But at the time of the Exodus they must have spread their borders still closer to Sinai, since they mustered at Rephidim in sufficient force to resist the Israelites' advance. The common practice, in ancient as well as modern times, of transferring home names to newly-acquired possessions, seems to have been followed in this case. Feirán, as has been already shown, is but a Bedawí corruption from Paran; and the survival of the name in this locality furnishes strong evidence in support of the generally-received identification of Feirán with Rephidim. After their defeat at Rephidim by Joshua, the Amalekites probably retired into the Tíh, and we hear no more of them until they again attacked Israel at Kadesh, this time successfully (Numb. xiv. 45).

To return to the events in Rephidim. The Amalekites having heard of the approach of the vast immigrant host, and thinking, doubtless, that conquest was their object, would naturally assemble as soon as possible at the first point in Israel's path where they were likely to be successful in resisting their advance, and preventing them from establishing themselves firmly in the peninsula. That point was obviously the narrow, winding defile of Feirán, well supplied with water while the enemy would have none, shut in by steep cliffs, thick with vegetation, secure from flank attack, offering ready means of retreat in case of defeat, and in every way well suited for rough warfare such as the Amalekites had become used to during centuries of struggle with the Egyptians. Other reasons, moreover, doubtless weighed

in the choice. That fair oasis, with its fertile groves and running stream, must have been their most highly prized possession in the peninsula, well worth defending to the uttermost, and certainly not to be lightly given up to an invader, to whom its possession would be an incalculable advantage. Probably, also, it was not forgotten that the Israelites, after traversing fifty miles of a waterless route, would arrive thirsty, "faint, and weary" (Deut. xxv. 18), and that on this account an attack upon them before they could reach the water in Feirán would be very likely to be successful. Finally, the configuration of the lateral glens in the vicinity of the Israelites' position was such as to favour those harassing attacks on the enemy's flank and rear which are indicated in the verse just referred to.¹

The name Rephidim, which, according to the best interpretations, means "places of rest" or "recreation," well befits the lovely oasis of Feirán, with which its Amalekite proprietors were so unwilling to part, and where the Israelites doubtless enjoyed a few days' rest after the fight.

The only objection to the identification of Feirán with Rephidim is its distance from Jebel Músa. This, by the shorter of two routes, is $30\frac{1}{2}$ miles, by the longer and better one 37 miles, either of which, for the single day which apparently remains, would have been an extremely long march. The difficulty, however, is not insurmountable. It

¹ Reference is here made to the point in Wády Feirán where it receives Wády 'Aleyát and is overlooked by Jebel et Tahúneh (p. 131). This is four miles above Hesý el Khattátín.

may be conceded as certain that Moses, having gained the pass of Feirán, would advance with his head-quarters to its upper end, and prepare to hold it against the Amalekites, in case that they should return to the attack. This would at once shorten his distance from Jebel Músa by six or seven miles. Further, the wording of Exod. xix. 1-2,¹ which differs in a marked way from other similar notices, seems to imply that there were two distinct operations; first a pitching after arriving at the wilderness of Sinai, then an encampment before the mount—very possibly corresponding to a break in a march which occupied one day, and part, at least, of a second. Josephus apparently took this view when he said that Moses, “going gradually on (from Rephidim), came to Mount Sinai.” In a choice of difficulties, it is best to accept that which does least violence to all the conditions of the case; and it certainly is easier to adopt the explanations given above than to admit either that Rephidim was not at Feirán, or that the decampment from Rephidim to Sinai was compatible with the very short distance which separates Feirán from Jebel Serbál.

One member alone of the Sinai Expedition, Mr. Holland, differs from his colleagues as to the position of Rephidim, which he places at the narrow gorge El Watíyeh, ten miles from Jebel Músa, by which Wády

¹ “In the third month, when the children of Israel were gone forth out of the land of Egypt, the same day came they into the Wilderness of Sinai. For they were departed from Rephidim, and were come to the Desert of Sinai, and had pitched in the wilderness; and there Israel camped before the mount.”

es Sheikh issues from the central mountain cluster. In this he follows Robinson, and is supported by Canon Cook, though neither of these argues from a personal knowledge of Feirán or El Watiyeh. While, however, Canon Cook takes the Israelites along the northern route from Wády Taiyibeh, the other two adopt the coast or Feirán route, a view which not only throws the whole system of topography into some confusion, but, as Dean Stanley remarks, involves the very difficult admission that the Israelites could have passed through the most striking feature of the Desert—the oasis of Feirán—without any notice of the fact. There are also other objections. Most of the strategical considerations which favour Feirán as the site of the battle of Rephidim cease to apply if the scene of that conflict be transferred to El Watiyeh. At Feirán the Amalekites were certain to intercept Moses and his people. At El Watiyeh there was no such certainty, as they could hardly have known that Moses's destination was Jebel Músa: he might have passed eastward unmolested. And though it has been argued that the Amalekites acted on the defensive only, not wishing to provoke a conflict, we can hardly believe that they would have taken the highly impolitic and fatal step of abandoning their cherished Feirán, well capable of being defended, for shelter within a stronghold in Midianite territory, and have allowed the invading horde to establish themselves securely in the neighbourhood. The position at El Watiyeh, a very narrow, winding defile, was certainly strong, but it was not, like Feirán, the key to the country. The Israelites, moreover, would

have had no want of water on their side of the pass; as there was a copious supply near at hand in Wády Ghárbeh. Lastly, the existence of a traditional "seat of Moses" on the cliff overhanging the gorge (page 66) is of no moment, as there are several others in the country, and this one, moreover, was formerly shown as the seat, not of Moses, but of Mahomet. For all these reasons, it is impossible to admit that view which takes the Israelites through Feirán to a Rephidim at El Watíyeh. It would even be easier to accept Canon Cook's theory of a northern route. But neither one nor the other seems to meet sufficiently well those conditions—biblical, historical, and topographical—which the case presents, and which are only fulfilled satisfactorily on the hypothesis that Rephidim was at Feirán.

WILDERNESS OF SINAI.—The last geographical feature which remains to be noticed in connection with the march to Sinai is the Wilderness or Desert of Sinai, named in Exod. xix. 1-2, and other passages. This may be identified with the central nucleus of granitic mountains in the heart of which Jebel Músa is situated, and which presents on the north-west a long escarpment of noble cliffs, rising from 2,000 to 3,000 feet above the neighbouring country, and forming one of the boldest and most rugged physical features in the peninsula. There are two points only at which this rocky barrier is pierced by passable roads. One is El Watíyeh, at its north extremity; the other is the Nagb Hawa, or windy pass, a steep and rugged defile little likely to have been attempted

by the Israelites, who therefore must have entered the mountains by El Watíyeh.

It is impossible to help noticing the admirable defence afforded by this natural rampart to the mountain fastness—the wilderness of Sinai—in which the Chosen People afterwards witnessed in perfect seclusion the delivery of the Commandments from the cliffs of Sinai, and received their national constitution. East of them lay the Midianites, whose friendship was secured by Moses's alliance with the tribe; on the south and south-west they were protected by impassable mountains; while on the north-west and north stretched that long line of mural cliffs, with but two points of ingress, which might be easily defended against any attempts at reprisal on the part of their old enemies the Egyptians, or of the Amalekites whom they had lately defeated.

The halt of Israel on their way from Rephidim to Sinai probably took place, if at all, near the foot of the escarpment, perhaps at the entrance of the Nagb Hawa, the scene of the legend of Moses given at page 80. Here they would literally have “come to the desert of Sinai,” and would have an abundance of water close at hand. Next day they would thread the gorge of El Watíyeh, and march on to Sinai through the fine reaches of Wády es Sheikh, amid a class of scenery which might well inspire feelings of dread, and prepare them for the appalling solemnities of the Announcement of the Law.

The journey from 'Ayún Músa to Sinai, as thus described, was 177 miles in length, by the best and longest route. If from this ten miles be deducted for

advances during and after the fight in Rephidim, there remain 167 miles, performed in eleven stages, which gives the very reasonable average of about 15 miles for each stage. Throughout this distance the route is at present passable for cattle and rough carts.

ROUTE FROM MOUNT SINAI TOWARDS KADESH.

KIBROTH-HATTAVAH.—After spending very nearly a year at Sinai, the children of Israel set out in organized array on their journey towards the Promised Land (Numb. x. 11–12). Of their exact route little certain is known, but it is more likely that they at first took the direction of 'Akabah than that, as some have supposed, they travelled nearly due north from Sinai. From Numb. x (12–33) it seems that, setting out with Hobab as a guide, they reached on the third day their first stationary encampment, apparently Kibroth-hattaavah (Numb. xi. 34; xxxiii. 16). Two terrible events are then described as having taken place: first, the destruction of the people by fire in the outskirts of the camp (xi. 1); second, a plague produced by a surfeit of quails miraculously guided to the spot, and the burial of those who died (xi. 31–33). The scene of the one was called Taberah, “burning” (xi. 3), that of the other, Kibroth-hattaavah, “graves of lust” or “gluttony” (xi. 34). Apparently Taberah, which is not named in xxxiii., was only part of the main station. It would appear from Numb. x. 12, 34, that the wilderness of Paran extended to Kibroth-hattaavah, though some have inferred that the resting of the cloud in the wilderness

of Paran was indicative only of the direction of their first destination, Kadesh. Some have identified Kibroth-hattaavah with Wády el 'Ain, about 55 miles north-east of Jebel Músa; others place it in the uplands north-west of El Watíyeh. A more likely spot than either is at Erweis el Ebeirig, thirty miles from Jebel Músa, on the road to 'Akabah. This is the scene of the native legend described at page 79. Stone hearths, enclosures, and other remains of an ancient camp, are here to be seen, covering several square miles, and associated with stone heaps which are apparently sepulchral. The occurrence in the vicinity of a Wády Tahmeh—*tahmeh* literally meaning "a mixed multitude in a state of sedition"—adds some slight proof in favour of this identification, as the sedition at Kibroth-hattaavah originated with the "mixt multitude" (Numb. xi. 4).

HAZEROTH.—Of Hazeroth, the next station, the name survives in that of 'Ain Hudherah, fifteen miles further on towards 'Akabah (p. 22). Here there are springs and palms, and remains of an old Christian settlement.

FURTHER ROUTE.—Beyond Hazeroth, it is impossible at present to trace with any certainty the course of the Israelites out of the peninsula of Sinai. The decampment from Hazeroth to the wilderness of Paran (Numb. xii. 16) seems to have been to that part of the wilderness of Paran in which Kadesh¹ was

¹ The identification of Kadesh has long been one of the knottiest points in sacred geography. Robinson, supported by Cook and others, places it at 'Ain el Weibeh, in the 'Arabah, on the east edge of the Negeb or "south country." Some have placed

situated, and from whence the mission of the spies took place (Numb. xiii. 3, 26 ; xxxii. 8). If this be the case, it must have comprised no fewer than nineteen stages, which are enumerated in Numb. xxxiii. Of these, the only one positively identified is the eighteenth, Ezion-gaber, which was near Elath or 'Akabah. From there being no mention of this station in the first part of the journey, we may infer that it was not then visited, and that the Israelites, after leaving Hazeroth, soon ascended into the Tîh, probably by an easy but little-known pass near Jebel 'Arádeh, a name which corresponds in etymology with that of the seventh station, Haradah. Here, then, we must leave them.

ON THE SUPPORT OF THE ISRAELITES IN THE DESERT.

A FEW words may be said in conclusion on the difficult question of the sustenance of the Israelites in their journey through the peninsula, and during their long stay at Sinai. Scripture relates certain providential interventions for the supply of food and water ; but these, excepting the manna, were apparently limited to special occasions, and there is no

it a little north of this, some at 'Ain es Shehábeh, thirty miles to the south-west, and some at Petra. But the site which has received the strongest support is 'Ain Gadís, in Jebel Magráh, on the south-west frontier of the Negeb. This identification, first suggested by Dr. Rowlands, has since been advocated by Messrs. Williams, Wilton, and others, by many German critics, including Ritter, and finally by Professor Palmer, in the second volume of his "Desert of the Exodus."

reason to suppose that they were of a permanent kind. The popular notion—founded on a mistaken view of 1 Cor. x. 4, and on Rabbinical tradition—that the rock which was struck in Rephidim continued to supply the people with water during their subsequent journeys, is not only palpably absurd, but is discountenanced by the Scriptural mention of a brook that descended out of Mount Sinai, and of a repetition of the water-miracle at Meribah-in-Kadesh (Deut. ix. 21; Numb. xx. 11, 13). How, then, can we account for the support of such a host at seasons when they were not aided by Divine interposition, and when they must have depended mainly for subsistence on their flocks and herds, and on the produce of the country and the soil?

The solution of this question plainly rests on the possibility of showing that at the time of the Exodus the rainfall and general fertility of the peninsula were somewhat greater than they are now. If good grounds can be given for this belief,—if it can be maintained that the existent water sources were then more abundant, that the pasturage may have been adequate for the support and increase of flocks and herds in such numbers as the Israelites are believed to have possessed,¹ and that the present oases and green spots are but the wrecks of a richer vegetation, much of the difficulty vanishes. Water, wood, milk, and meat cannot then have been wanting; and these would have been eked out by the much-needed vegetable-manna,

¹ The oxen may or may not have been numerous. The camels, goats, and sheep might have fared, as they do now, on very scanty pastures.

by the animals and birds of the region, by dates and other fruits, and occasionally by fish and perhaps locusts. Probably also, during the year spent at Sinai, the resources of the soil were utilised to the utmost. The Israelites, many if not most of whom, from their residence in the Nile-land, must have been versed in agriculture and irrigation, would not be slow to turn this knowledge to account, and they had the help of Moses and his wife's family, who were doubtless well acquainted with the favoured spots of the district.

It is not necessary to suppose that the difference in climate and vegetation was great. The region, in its general character, must have been essentially a wilderness when the Israelites passed through it: it was then, as now, "a desert land, a waste howling wilderness" (Deut. xxxii. 10). But a very slight difference in those respects may well have rendered it far more habitable than it is now. And there are sundry indications from Scriptural and other sources that this was the case at and before the time of the Exodus. That the flocks of Israel subsisted on the natural pastures around Sinai is shown by the injunction that they were not to be let feed before the mount (Exod. xxxiv. 3). At Sinai, moreover, were the outlying pastures of the Midianites. The size of the shittim-wood boards used for the tabernacle (Exod. xxxvi. 21) indicates that the acacia-tree of the peninsula (if this be, indeed, the "shittah" of Scripture) must then have reached to a much greater size than it does now. David's devout utterance, "Thou, O God, didst send a plentiful

rain, whereby Thou didst confirm Thine inheritance when it was weary" (Ps. lxxiii. 9), and other kindred passages in the book of Psalms, tell of no meagre supply of grateful showers, and possibly indicate an unusually rainy year. Heavy dews also would seem to have been of constant occurrence (Exod. xvi. 13; Numb. xi. 9).

To cite indications from other sources, the native legends speak of horses and mosquitoes as having once existed in the country, which suggests a greater abundance formerly of pasture and moisture. It must be remembered also that long before the Exodus the peninsula was inhabited by races whose resources and numbers were great enough to enable them to carry on for centuries a series of obstinate struggles with the Egyptian troops sent to conquer the country, and whose attacks were so harassing that a considerable force was constantly needed to garrison the mining district. The mines too furnish their share of evidence. The extensive smelting-works, traces of which are still visible, can never have been carried on for so long a time without a supply of wood for fuel very much greater than that which now exists. Remains of fresh-water shell-fish, probably obtained near the spot and used as food by the miners, have been found amongst the *débris* at Maghârah. Nor is it likely that the large population of the mines was wholly dependent on Egypt for its supplies of other food, some of which was no doubt locally produced. Coming down to the time of the Exodus, we find the peninsula then partly peopled by tribes of Amalekites sufficiently powerful to give battle on no unequal

terms to the hosts of Israel at Rephidim. Lastly, the primitive dwellings and burial-places which are scattered all over the peninsula attest the former existence of large and wide-spread populations—doubtless pastoral, and, from traces found in connection with some of the ruins, probably also to some extent agricultural—who must have derived their means of subsistence from the country in its condition at the time: and, though most of the houses are situated far from existing water-springs, it is almost impossible to believe that they were originally built on waterless sites. All these indications show that in early ages the peninsula must have been better suited for habitation than it is now, and have contained within itself fairly ample resources for the permanent support of a not inconsiderable population.

To what, then, can the present change be attributed? To the destruction of the trees for smelting and other purposes, and the ultimate depopulation of the country. When, soon after the Exodus, the mines were finally deserted, the hills and valleys of the mining region, stripped of their timber, and no longer kept under cultivation, would soon cease to attract fertilising showers. Then the vegetation would dwindle, the herbage perish, and the whole district, neglected and deserted, be left to the unchecked ravages of *scils* and the parching influences of the sun. Similarly, when the Israelites had abandoned Sinai, after having no doubt aided considerably in reducing the amount of timber and vegetation over a large area, and when the country was left, probably for centuries, without any settled inhabitants, the same causes must have

been at work in the central region of the peninsula, yielding up bit by bit to the Desert. Nor has this process of denudation been materially checked in more modern times. The Christian occupation in the early and middle ages, limited as it was to a few scattered spots, can have had but little if any effect in arresting the general decay, though at the same time it furnished remarkable proof of the capacity of the Desert for maintaining a population which is willing to husband the natural resources by irrigation and tillage. By the Arabs, on the other hand, the spread of barrenness has at all times been largely assisted. By them cultivation is neglected, and the water sources are uncared for; and they habitually cut down, for fuel or for their annual tribute of charcoal, the trees and shrubs on which the rainfall and general fertility depend.

Thus, in the course of 3,000 years, the Desert has gradually come to wear its present aspect.

From these considerations of the physical and other causes which have been in operation in the peninsula since the time of the Exodus, we are justified in claiming for that period a slightly greater and more regular rainfall, as well as more vegetation and cultivation, than at present. The country, therefore, must have been better fitted for the support of human and animal life. Whether that superiority can fairly be extended so as to embrace all the requirements of the case, it is hard to say; but the considerations which have here been summed up, even if they do not altogether solve the difficulty, at least serve to diminish its force.

THE END.

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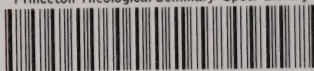
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